

# SERVICE MANUAL

KR-4400



**AM-FM STEREO RECEIVER** 

×13/37

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regions. This is because each product must be used under the	io cost condition, initiality	

The products are subject to modification in components and circuits in different countries and regions. This is because each product must be used under the best condition. This manual provides information of modification based on the standard in the U.S., for the convenience of ordering associated components and parts.

We employ the following abbreviations of respective countries:

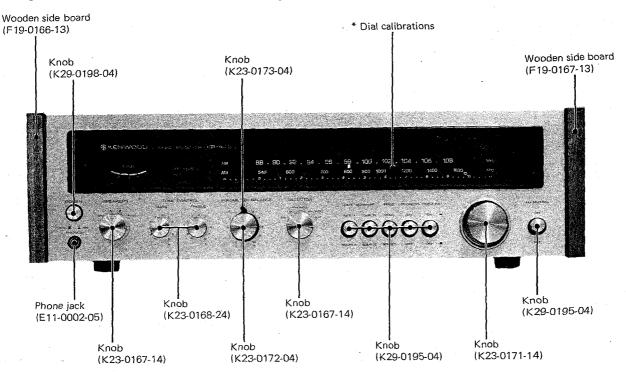
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	U.S.	Δ.				4			7. J.	K		100	Engl	and						10.5			Т	
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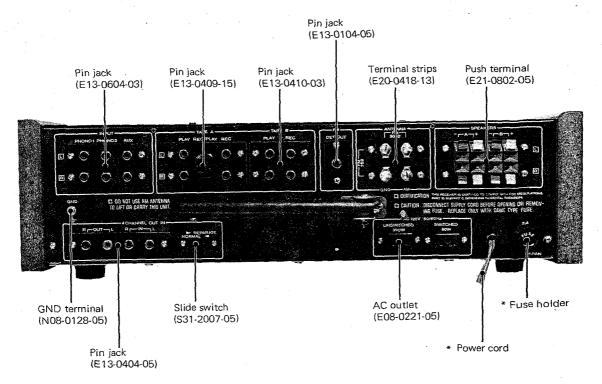
#### **EXTERNAL VIEW**

The KR-4400 is one of the NEW KR series receivers. It consists of TUNER unit of well-established, PRE and TONE amplifier equipped with IC, and pure complementary OCL MAIN amplifier with differential amplifier in its first stage.

The protection circuit is composed of ASO limitter and DC drift detecter of center voltage.

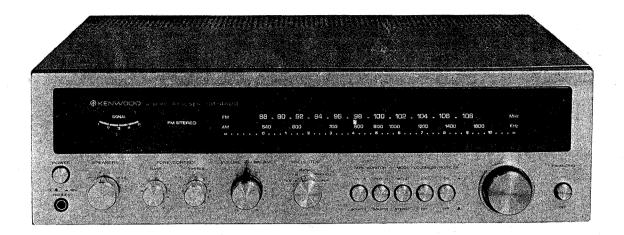
4-channel OUT-IN for those who wish to enjoy 4-channel reproduction can do so through this receiver by connecting a SQ, RM, or CD-4 type adapter to these jacks.





<sup>\*</sup> Refer to MODIFICATION PARTS LIST. This unit is K type.

#### **EUROPE TYPE/POWER VOLTAGE SELECTOR**



#### **EUROPE (W. L) TYPE**

#### **■ POWER VOLTAGE SELECTOR AND FUSE**

The KR-4400 operates on 110  $\sim$  120 volts AC or 220  $\sim$  240 volt AC. There is the AC Voltage Selector Switch on the rear panel (except for K.P.L Type) which is set to the line voltage of the destination. Before operating this receiver, make sure that the position of the AC Voltage Selector Switch matches your line voltage. If not, it must be changed to the proper setting.

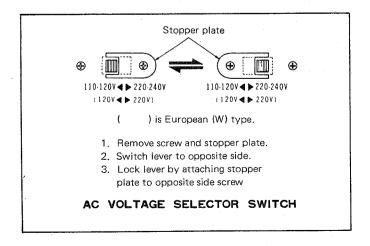
To change; turn the receiver off and pull off the power cord, then remove the stopper plate and slide the AC Voltage Switch to the opposite side. Then reattach the stopper plate to the other side.

When the position of the AC Voltage Selector Switch is changed, it is also necessary to change the power fuse. For  $110 \sim 120$  volt operation a 2.5 ampere fuse should be used. For  $220 \sim 240$  volt operation a 1.5 or 1.25 AT ampere fuse should be used.

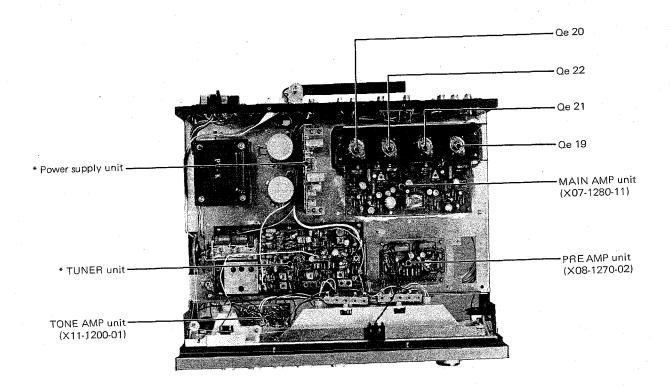
If the power fuse fails, remove blown fuse and replace with the same type fuse of the same capacity. Any trouble in the power supply circuit will cause the fuse to blow again. When you replace the fuse, turn the fuse holder in the direction of the arrow using a Phillips screw driver. In some districts, the set will be provided with another type of fuse holder, which allows easy replacement of the fuse without using the Phillips screw driver.

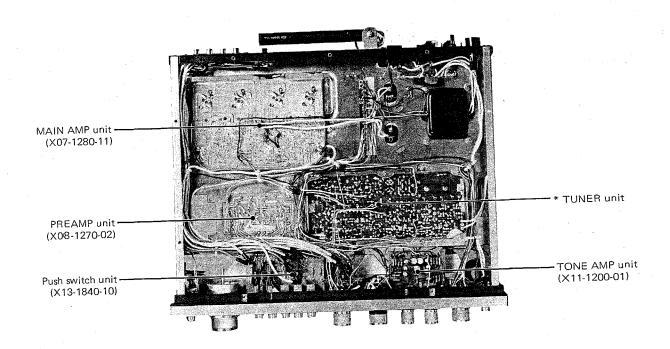
#### NOTES:

Always disconnect power supply before replacing a fuse.



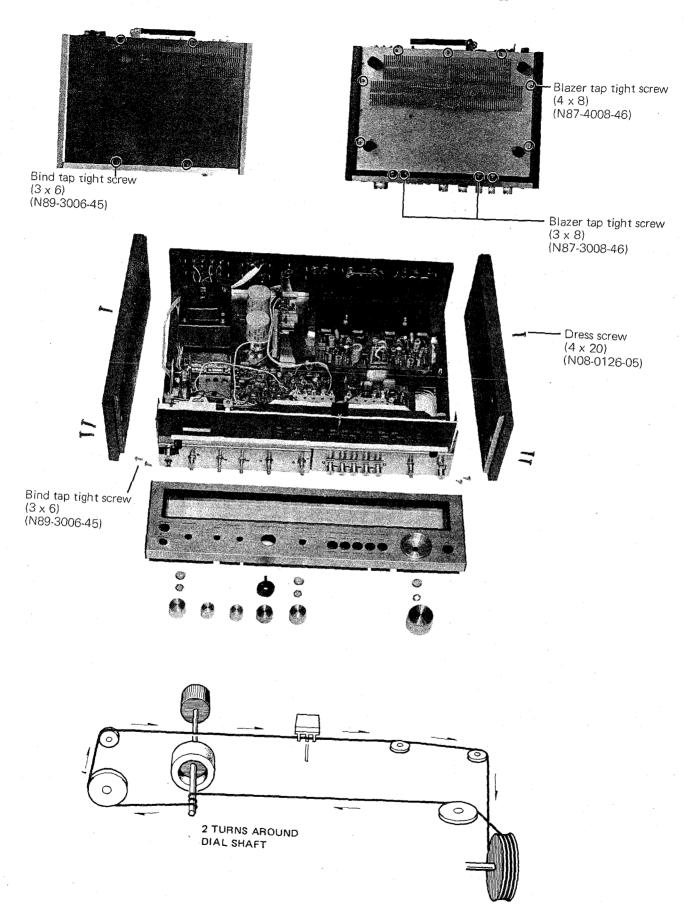
## TOP & BOTTOM VIEW



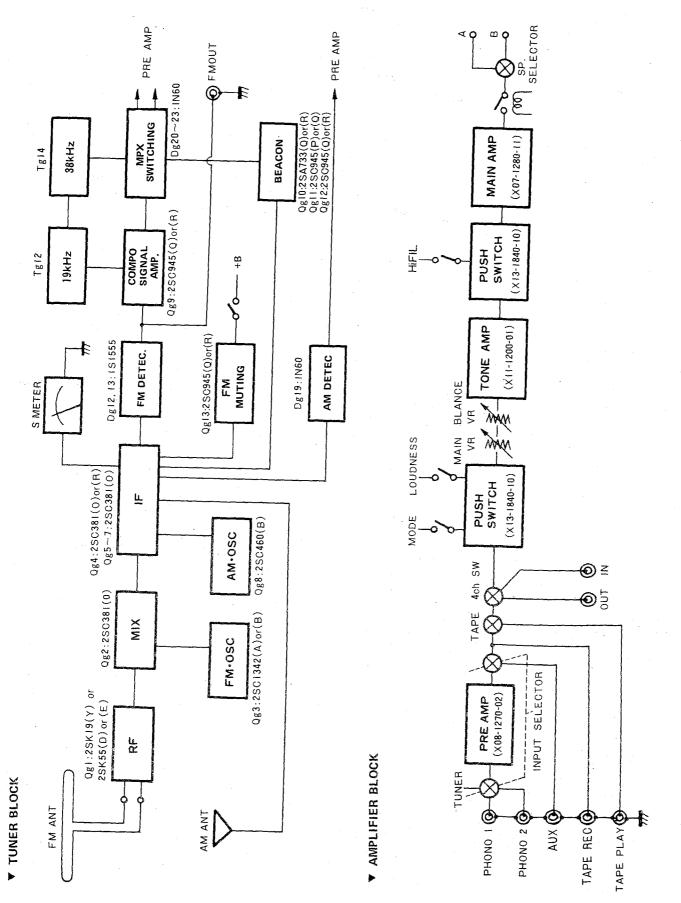


<sup>\*</sup> Refer to MODIFICATION PARTS LIST. This unit is K type.

# DISASSEMBLY/CORD STRINGING



## **BLOCK DIAGRAM**



#### CIRCUIT DESCRIPTION

#### TUNER (X05-1120-10, -42, -61)

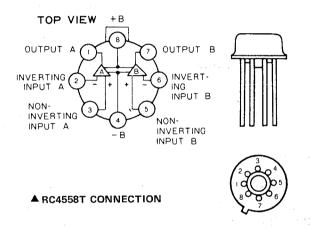
The FM section is the acknowledged one including a FET in the front end, IF block of four stage, and the diode switch circuit in the MPX stage.

FM separation is performed by adjusting VRd1 on the PRE AMP unit.

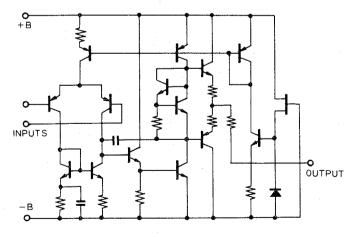
#### PRE AMP (X08-1270-02)

In this section, a metal can sealed monolithic IC is used. It is made up of the differential amplifier in the first stage, emitter followers in next stage, class A driver, and pure complementary output stage.

This circuit possesses the characteristics of wide dynamic range and low distortion by drawing two power supplies, positive and negative.



#### **▼**RC4558T INTERNAL CIRCUIT



#### TONE AMP (X11-1200-01)

This TONE AMP is stable CR control type in which the amplification part is the same IC as in PRE AMP UNIT.

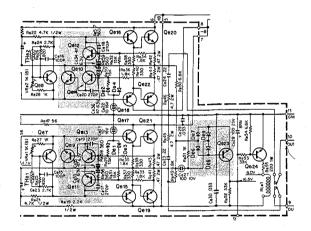
#### MAIN AMP (X07-1280-11)

Good N.F.B effect and bias current stability are established by using the metal can sealed transistors in the differential amplifier of the first stage and in class A driver.

Transistors and thermistor for bias setting are used in the complementary circuit, and full temperature compensation is effective. Complementary and final circuitry consists of a direct-coupled pure complementary.

Meanwhile, protection circuit consists of both the current limiter type (ASO limiter) suppressing the over current through the power transistor, and DC drift detection type of center voltage level which operates the protection relay to cut off the speaker system from the output line.

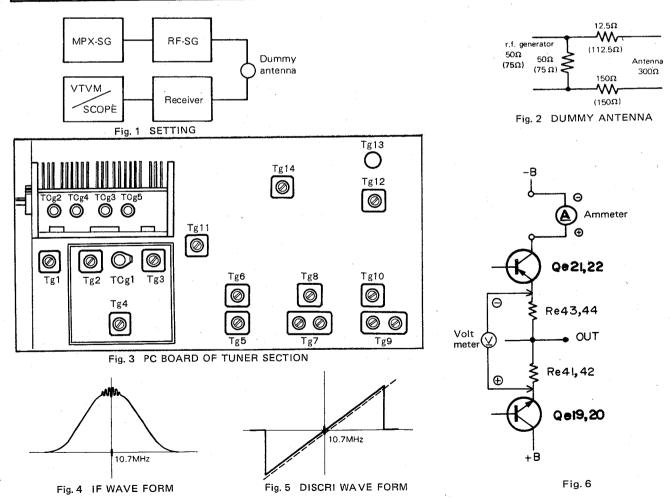
These protective actions are self-return.



#### **ADJUSTMENT**

- Tuning dial is set to the proper point corresponding to no radio stations.
- The sweep and the r.f. generator are set to the lowest response possible on oscilloscope.
- When connecting the r.f. generator to the antenna terminal use the dummy antenna... refer to Fig. 2.
- Use the insulated screwdriver adjusting the i.f.t.
- SELECTOR is FM position.
- FM MUTING is OFF position unless it is required.
- Test point shown in the schematic diagram.
- For TRACKING adjustment, repeat several times and confirm the reception of broadcasting.

		TEST EQU	IIPMENTS	RECEIVER	OUTPUT	ADJUSTMENT	REMARKS	
No.	ALIGNMENT	CONNECTION	SETTING	SETTING	INDICATOR	POINTS		
FM S	SECTION					•		
1	1 IFT SWEEP to TP1 via. 5pF cap.		10.7 MHz	Non-station	VTVM & SCOPE to TP2 via. 100kΩ resist.	Tg4, 5, 7	Maximum deflection (Fig. 1~4)	
2	DISCRIMI- NATOR	same	same :	same	VTVM & SCOPE to TP3 via. 100kΩ resist.	Tg9	S-response and its symmetry on each side of 10.7 MHz center frequency (Fig. 5)	
3	TRACKING	RF-SG to ANT via. dummy ant.	90 MHz 75 kHz (Dev.) 400 Hz (Mod.)	90 MHz	VTVM & SCOPE to REC jack	Tg1, 2, 3	Maximum deflection	
4	TRACKING	same	108 MHz 75 kHz (Dev.) 400 Hz (Mod.)	108 MHz	same	TCg1, 2, 3	same	



## **ADJUSTMENT**

	ALIONATAIT	TEST EQU	IPMENTS	RECEIVER	OUTPUT	ADJUSTMENT	REMARKS
No.	ALIGNMENT	CONNECTION	SETTING	SETTING	INDICATOR	POINTS	
5	ОUТРUТ	RF-SG to ANT via. dummy ant.	98 MHz 75 kHz (Dev.) 400 Hz (Mod.) 60 dB (Input)	98 MHz	VTVM to REC jack	_	Confirm 0.33V output
6	SCA FILTER	AG to TP3	67 kHz 100 mV	_	VTVM & SCOPE to REC jack	Tg13	Minimum deflection
7	19 KHz, 38 KHz	FM-MPX to RF-SG ext. jack	PHASE (NORMAL) 98 MHz 67.5 kHz (Dev.) 400 Hz (Mod.) 60 dB (Input) PHASE (REVERSE)	98 MHz	same	Tg12, 14	Maximum deflection
8	MUTING	MPX-SG to RF-SG ext. jack	PHASE (NORMAL) 98 MHz 67.5 kHz (Dev.) 400 Hz (Mod.) 25 dB (Input)	98 MHz MUTING on	-	-	Confirm MUTING operation
9	BEACON	same	same	98 MHz	_	_	STEREO indicator lights
10	SEPARATION	same	98 MHz 67.5 kHz (Dev.) 400 Hz (Mod.) L or R (Select) 60 dB (Input)	same	VTVM & SCOPE to REC jack	VRd1	Minimum deflection
AM	SECTION	1		·.			
1a	IFT	SWEEP to TP3	455 kHz	Non-station	VTVM & SCOPE to TP5	Tg6, 8, 10	Maximum deflection
1b	IFT	RF-SG to ANT	S Meter deflection 3 or 4	-	VTVM & SCOPE to REC jack	Tg6, 8, 10	same
2	RF	same	600 kHz 400 Hz (30% Mod.)	600 kHz	same	Tg11 Ferrite ANT	same
3	RF	same	1,400 kHz 400 Hz (30% Mod.)	1,400 kHz	same	TCg4,5	same
4	SMETER	same	1,000 kHz 400 Hz (30% Mod.)	1,000 kHz	S meter		Confirm the meter deflection is above 3
AUI	DIO SECTION	<u> </u>	.1		<del></del>		
1a	BIAS		-	VOLUME is its min.	Ammeter	VRe1, 2	Meter indicates 30 mA (Fig. 6)
1b	BIAS	_		same	DC VTVM	same	Meter indicates 30 mV (Fig. 6)

# MODIFICATION PARTS LIST OF KR-4400

ef. No.	U.S.A. (K)	Canada (P)	PX (U)	Australia (X)	Europe (W)	Scandinavia (L)	England (T)	South Africa (S)	Other area (M)	Description
et. No.	0.5.A. (K)			101 0010 00	A01-0247-02	A01-0247-02	A01-0246-03	A01-0246-03	A01-0246-03	Case
_	A01-0246-03	A01-0246-03	A01-0246-03	A01-0246-03		A20-0786-01	A20-0784-01	A20-0784-01	A20-0784-01	Panel assembly
_	A20-0784-01	A20-0784-01	A02-0784-01	A20-0784-01	A20-0786-01	1	A20-0785-05	A20-0785-05	A20-0785-05	Panel
-	A20-0785-05	A20-0785-05	A20-0785-05	A20-0785-05	A20-0787-05	A20-0787-05		1	A21-0178-02	Dress panel
-		A21-0178-02	A21-0178-02	A21-0178-02	A21-0179-02	A21-0179-02	A21-0178-02	A21-0178-02		Rear panel
_	A21-0178-02		A23-0489-02	A23-0490-02	A23-0491-02	A23-0492-02	A23-0490-02	A23-0490-02	A23-0489-02	Hear panel
	A23-0488-02	A23-0488-02	A23-0469-02	720 0100 02						
		i		242 2452 24	B10-0161-04	B10-0161-04	B10-0153-04	B10-0152-04	B10-0152-04	Front glass
_	B10-0152-04	B10-0152-04	B10-0152-04	B10-0152-04		B20-0316-13	B20-0315-03	B20-0317-03	B20-0315-03	Dial calibrations
	B20-0315-03	B20-0315-03	B20-0315-03	B20-0315-03	B20-0316-13	I	1	B40-0990-04	B40-0990-04	Model name plate
_	B40-0987-04	B40-0988-04	B40-0989-04	B40-0990-04	B40-0992-04	B40-0993-04	B40-0991-04	B40-0990-0 <del>4</del>	B40 0000 0 1	Fuse sticker
· —		B42-0515-04	_		- [	. –	- '	_	-	
	B42-0515-04			_	B42-0024-04		- 1	- 1	- 1	SEV sticker
-		-					_ 1	-	- 1	Caution sticker
_	B42-0359-04X2	B42-0359-04	- !		. —	*				MI
			B46-0022-00	_	_		-	- 1	—.	Warranty card
- 1	B46-0002-00	B46-0021-00	B46-0023-00	_	·				BEO 1197 00	Instruction manual
		DE0 1107 00	B50-1187-00	B50-1187-00	B50-1187-00	B50-1187-00	B50-1188-00	B50-1187-00	B50-1187-00	
- 1	B50-1187-00	B50-1187-00		200	_ 1		- 1		-	Caution card for carton case
	B58-0043-00	B58-0043-00	-		050 0150 00		B58-0003-00	B58-0003-00	B58-0003-00	Caution card for power supply
_		- 1	B58-0139-00	B58-0003-00	B58-0156-00	- 1	B58-0108-00	B58-0108-00	B58-0108-00	Caution card for spare fuse
	· _		B58-0146-00	B58-0108-00	B58-0108-00	-			B58-0101-00	Caution card for power voltage selector
. —	_	_	B58-0144-00	B58-0101-00	B58-0157-00	-	B58-0101-00	B58-0101-00	550-0101-00	KENWOOD service station's list
- '	-	1	1		_	_	-		- 1	VEINMOOD SELVICE STATION 2 1125
_	-	-	B59-0018-00	. =		1		ì	-	
	1				500 0001 01		D32-0021-04	D32-0021-04	D32-0021-04	Switch stopper
	_	_	D32-0021-04	D32-0021-04	D32-0021-04	-	D32-0021-04	502 0021-04		
-	-					4	i			A O =+1=+ O
		E00 0004 07	E08-0221-05	E08-0221-05	E08-0221-05		E08-0221-05	E08-0221-05	E08-0221-05	AC outlet x 2
	E08-0221-05	E08-0221-05	1		E30-0176-05	E30-0292-05	_ !	· <del>-</del>	E30-0034-05	Power cord
_	E30-0181-05	E30-0181-05	E30-0034-05	E30-0185-05	E30-0170-03	200 0202 00			İ	
				· .			E 0 E 0 E 0 E 0 E	F05-2521-05	F05-2521-05	
			F05-2521-05	F05-2521-05	F05-2525-05	F05-1222-05	F05-2521-05			Fuse
	F05-2524-05	F05-2522-05	F05-1521-05	F05-1521-05	F05-1222-05	1.00-1222-00	F05-1521-05	F05-1521-05	F05-1521-05	m. to state bessed 11 A
		i	L L	. 1	_		F19-0166-13	F19-0166-13	F19-0166-13	Wooden side board (L)
	F19-0166-13	F19-0166-13	F19-0166-13	F19-0166-13	-		F19-0167-13	F19-0167-13	F19-0167-13	Wooden side board (R)
	F19-0167-13	F19-0167-13	F19-0167-13	F19-0167-13		- I	1-15-0107-13	100107 10		
	1 13-0107-13								1104 4457 04	Carton case (internal)
			1101 1157 04	H01-1157-04	H01-1159-04	H01-1159-04	H01-1158-04	H01-1157-04	H01-1157-04	
_	H01-1156-04	H01-1157-04	H01-1157-04	,	H03-0336-04	н03-0336-04	H03-0335-04	H03-0334-04	H03-0334-04	Carton case (external)
_	_	H03-0334-04	-	H03-0334-04		H10-1144-02	H10-1142-02	H10-1142-02	H10-1142-02	Polystyrene foamed fixture
	H10-1142-02	H10-1142-02	H10-1142-02	H10-1142-02	H10-1144-02			H10-1143-02	H10-1143-02	Polystyrene foamed fixture
	1 1	H10-1143-02	H10-1143-02	H10-1143-02	H10-1145-02	H10-1145-02	H10-1143-02		1 1	Polyethylene bag
_	H10-1143-02	1.4	H25-0029-04	H25-0029-04	H25-0029-04		H25-0029-04	H25-0029-04	H25-0029-04	Polyethyrene bag
_	<b>–</b> :		H25-0029-04	1120 0020 01					į	
		1			140 0404 02	J19-0421-03	_	'	_ 1	Front glass stopper
_		_	· <del></del>	_	J19-0421-03		112 0022 15	J13-0033-15	J13-0033-15	Fuse holder
_	j	_	J13-0033-15	J13-0033-15	J13-0031-05	J13-0031-05	J13-0033-15	1	1 1	AC cord bushing
	-	141 0006 00	J41-0006-00	J41-0024-15	J41-0017-05	J41-0017-05	J41-0024-15	J41-0024-15	J41-0006-00	Accord busining
_	J41-0006-00	J41-0006-00	1-0000-00							
					1.00.0121.05	L09-0122-05	L03-0099-05	L03-0099-05	L03-0099-05	Power transformer
_	L04-0050-05	L04-0050-05	L03-0099-05	L03-0099-05	L09-0121-05	203-0122-03	200 0000 00		1	
						1	004 0004 05	621 2001 OF	\$31-2001-05	Slide switch (power voltage selector)
			S31-2001-05	S31-2001-05	S31-2001-05	_	S31-2001-05	\$31-2001-05		Push switch (power)
· ·		1	S59-2024-15	S59-2022-15	S59-2023-15	S59-2023-15	S59-2022-15	S59-2022-15	S59-2024-15	LUSII SWITCH (POWEL)
_ ,	S59-2022-15	S59-2022-15	303-7074-19	000-2022-10				1	1 .	
					V00 1400 C1	X00-1460-61	X00-1460-01	X00-1460-01	X00-1460-01	Power supply unit
_	X00-1460-10	X00-1460-10	X00-1460-01	X00-1460-01	X00-1460-61	1	X05-1120-62	X05-1120-42	X05-1120-11	Tuner unit
<del>-</del>	X05-1120-11	X05-1120-11	X05-1120-11	X05-1120-11	X05-1120-62	X05-1120-62	X05-1120-62	A05-1120-42	700 1120 1	
_	AU5-1120-11	7,00-1120 11								Ceramic capacitor 0.01µF +80% -20%
	1		OK 4550D 400D MILL	CK45E3D103P-MU	CK45E3D103P-MU	CK45E3D103P-MU	CK 45E3D103P-MU	CK45E3D103P-MU	CK45E3D103P-MU	Ceramic capacitor 0.01µr 700% -20%
C301	_	-	CK45E3D103P-MU	CN40E3D 103F-WIU	31310203 1001 1110	_		· · · · · ·	-	Polyester capacitor 0.01µF ±20%
C301	C90-0145-05	C90-0145-05			_			_	_	Carbon resistor 2.2MΩ ±10% 1/2W
	RC05GF2H225K	RC05GF2H225K	-	_		I	_	1		!
R300	ncuburzhzzak							- 1	1	
			l	1						
	1							1		
						1				
	-	1	-			1	ļ			
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			1		. 1	1	İ			
									1 -	
	1	1	1		1		1			

## PARTS LIST

#### TOTAL PARTS LIST OF KR-4400

C302, 303   Electrolytic 4700μF 35W	/8W /8W /8W /2W /8W /8W /8W /2W	
C302, 303   Electrolytic 4700μF 35W	/8W /8W /8W /2W /8W /8W /8W /8W /2W /2W	
RESISTOR   RESISTOR   RESISTOR   R120   PD14BY2B394J   Carbon 390kΩ ±5% 1/ R121   PD14BY2B104J   Carbon 100kΩ ±5% 1/ R122   PD14BY2B222J   Carbon 2.2kΩ ±5% 1/ R170   RC05GF2H331K   Carbon 330Ω ±10% 1/ R220   PD14BY2B394J   Carbon 390kΩ ±5% 1/ R221   PD14BY2B104J   Carbon 100kΩ ±5% 1/ R222   PD14BY2B222J   Carbon 2.2kΩ ±5% 1/ R270   RC05GF2H331K   Carbon 330Ω ±10% 1/ R301   RC05GF2H270K   Carbon 27Ω ±10% 1/ R301   RC05GF2H270K   Carbon 27Ω ±10% 1/ R301   RC05GF2H270K   Carbon 27Ω ±10% 1/ R301   R05GF2H270K   R05G	/8W /8W /8W /2W /8W /8W /8W /2W	
R120	/8W /8W /2W /8W /8W /8W /2W	
R121	/8W /8W /2W /8W /8W /8W /2W	
R121	/8W /8W /2W /8W /8W /8W /2W	
R170	/2W /8W /8W /8W /2W /2W	_
R220	/8W /8W /8W /2W /2W	
R221	/8W /8W /2W /2W	
R222   PD14BY2B22J   Carbon 2.2kΩ	/8W /2W /2W	_
R270	/2W /2W	_
R301   RC05GF2H270K   Carbon 27Ω	/2W	_
POTENTIOMETER           VR1         R11-9006-05         Potentiometer 100kΩ(B) x 200kΩ (W)           SWITCH           S1         S01-3016-05 S2 S04-1024-05 Rotary switch (SPEAKER)           S3         S40-2032-05 Push switch (MUTING) Push switch (TAPE A,B, MC)           S4~8         S40-2050-05 Push switch (TAPE A,B, MC)		_
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	2	_
200kΩ (W)   SWITCH	2	
S1         S01-3016-05         Rotary switch (SELECTOR           S2         S04-1024-05         Rotary switch (SPEAKER)           S3         S40-2032-05         Push switch (MUTING)           S4~8         S40-2050-05         Push switch (TAPE A,B, MC)		
S2         S04-1024-05         Rotary switch (SPEAKER)           S3         S40-2032-05         Push switch (MUTING)           S4~8         S40-2050-05         Push switch (TAPE A,B, MC		-
S2         S04-1024-05         Rotary switch (SPEAKER)           S3         S40-2032-05         Push switch (MUTING)           S4~8         S40-2050-05         Push switch (TAPE A,B, MC	()	-
S4~8 S40-2050-05 Push switch (TAPE A,B, MC		
LOUDNESS, HI-FILTER)	DDE,	
MISCELLANEOUS		_
- A10-0398-11 Cahssis		
<ul><li>– A22-0157-02   Sub panel</li><li>– A30-0089-15   Dial board</li></ul>		
- A40-0229-03 Bottom board		
- A40-0229-03 Bottom board		
- B07-0128-04 Ring (Tuning)		
- B21-9013-05 Dial pointer	1	
- B30-0064-15 Pilot lamp (50mA)		
- B30-0068-05 Pilot lamp (200mA)	į	
- B30-0069-05 Pilot lamp (300mA) x 3		
- B31-0190-05 Meter		
- B42-0009-04 Passed sticker		
- B52-0166-00 Schematic diagram		
- D01-0024-05 Flywheel		
- D15-0067-24 Dial pulley	,	
- D15-0073-14 Pulley		
- D15-0075-04 Pulley x 5		
– D20-0091-14 Dial shaft	ŀ	
<ul> <li>E08-0410-04 Connector Bushing x 3</li> </ul>		
- E08-0607-04 Connector Bushing x 4		
- E11-0002-05 Phone jack		
<ul> <li>E13-0104-05</li> <li>Pin jack (1P)</li> </ul>		
- E13-0404-05 Pin jack (4P)	1	
<ul> <li>E13-0409-15</li> <li>Pin jack (4P, DIN)</li> </ul>		
- E13-0410-03 Pin jack (4P)		
E13-0604-03 Pin jack (6P)		
- E20-0418-13 Terminal strips		
- E21-0802-05 Push terminal (8P)		
- F19-0170-04 Blinder	1	
- G01-0044-04 Dial spring		

Ref. No.	Parts No.	Description	Re- marks
-	H20-0394-04	Protection cover	
<del>-</del> .	H25-0078-00	Instruction bag	
-	J02-0049-14	Leg x 4	
	J19-0258-04	Wire stopper	. [
<b>–</b> .	J19-0418-13	Front glass stopper	
	J21-0806-14	Antenna fittings	
	J21-1263-14	Pulley fittings	
. –	J25-0768-14	PC board	
· -	J90-0061-03	Dial pointer rail	-
. –	K23-0167-14	Knob (SELECTOR, SPEAKER) x 2	
	K23-0168-24	Knob (TONE) x 2	
	K23-0171-14	Knob (TUNING)	
	K23-0172-04	Knob (LOUDNESS)	
	K23-0173-04	Knob (BALANCE)	
	K29-0195-04	Knob (PUSH) x 5	
-	K29-0198-04	Knob (POWER)	
	T90-0002-05	FM Antenna	
-	T90-0026-05	Bar Antenna	
_	X07-1280-11	Main Amp. Block	
_	X08-1270-02	Pre-Amp. Block	
}	X11-1200-01	Tone Amp. Block	
-	X13-1840-10	Push switch Block	

## ■ POWER SUPPLY (X00-1460-10, -61, -01)

Ref. No.	Parts No.	Description	Re- marks
6.2	С	APACITOR	
Ck1,2 Ck3	CK45E2H103P CE04W1V221	Ceramic 0.01µF +100%, -0% Electrolytic 220µF 35WV	
Ck4	CE04W1V221	Electrolytic 220µF 35WV Electrolytic 100µF 35WV	
Ck5	CE04W1C221	Electrolytic 200 $\mu$ F 16WV	
Ck6.7	CE04W1C101	Electrolytic 100µF 16WV	
Ck9	CE04W1C471	Electrolytic 470µF 16WV	1
		RESISTOR	<u>'</u>
Rk1	RN14AB3D101J-B	Metal film 100Ω ±5% 2W	<del>,  </del>
Rk2	RN14AB3A561J-B	Metal film $560\Omega$ $\pm 5\%$ 1W	
Rk3	RN14AB3A560J-B	Metal film 56Ω ±5% 1W	
Rk4	PD14BY2E121J-B	Carbon 120Ω ±5% 1/4W	
Rk5,6	PD14BY2E681J	Carbon $680\Omega \pm 5\%$ 1/4W	1 1
Rk <sub>2</sub> 7,8	PD14BY2E332J	Carbon 3.3kΩ ±5% 1/4W	
Rk9	PD14BY2E470J	Carbon 47Ω ±5% 1/4W	
	SEM	CONDUCTOR	
Dk1~4		Diode U0-5B	
Dk5		Zener Diode DZ-140	
Dk6		Zener Diode YZ-140	} }
Dk7		Diode W0-6B	
	MIS	CELLANEOUS	
-	B41-0184-04	Fuse sticker	-10
_ _	E23-0006-04	Terminal x 14	
	F05-2021-05	Fuse (2A) UL	-10

## PARTS LIST

Rg38

Rg39 Rg40

PD14BY2B123J

Ref. No.	Parts No.	Déscription	Re- marks
<u> </u>	F05-2029-05	Fuse (2A)	-01
	F05-2029-05	Fuse (2A) SEMKO	-61
-	J13-0034-05	Fuse holder UL	-10, -01
-	J13-0032-05	Fuse holder SEMKO	-61
-	J25-1086-04	PC board	

#### ■ TUNER (X05-1120-11 -42 -62)

IUN	ER (X05-1120	-11, -42, -62)	,
Ref. No.	Parts No.	Description	Re- marks
	C	CAPACITOR	<u></u>
Cg1 Cg2 Cg3,4 Cg5	CC45SL1H150K CC45SL1H101K CK45F1H103Z CC45SL1H050D	Ceramic 15pF ±10% Ceramic 100pF ±10% Ceramic 0.01µF +80%,—20% Ceramic 5pF ±0.5pF	
Cg6 Cg7 Cg8 Cg9	CC45SL1H150K CC45SL1H030D CC45TH1H030C CC45SL1H221K	Ceramic         15pF         ±10%           Ceramic         3pF         ±0.5pF           Ceramic         3pF         ±0.25pF           Ceramic         220pF         ±10%	
Cg11 Cg12	CK45F1H103Z CC45SG1H150K CC45UH1H050D	Ceramic 0.01 \( \mu F + 80\), \( -20\) Ceramic 15 \( pF \) \( \pm \) ±10\( \pm \)  Ceramic 5 \( pF \) \( \pm \) ±0.5 \( pF \)	-11, -62 -42`
Cg13	CC45SG1H220K CC45TH1H220K	Ceramic         22pF         ±10%           Ceramic         22pF         ±10%	-11, -62 -42
Cg14 Cg15 Cg16	CC45SG1H470K CC45SG1H220K CC45TH1H220K CK45F1H103Z	Ceramic 47pF ±10% Ceramic 22pF ±10% Ceramic 22pF ±10% Ceramic 22pF ±10%	-11,-62 -42
Cg17,18 Cg19 Cg20 Cg21		Ceramic $0.01\mu\text{F} + 80\%, -20\%$ Ceramic $0.022\mu\text{F} + 80\%, -20\%$ Ceramic $100\text{pF} \pm 10\%$ Ceramic $0.022\mu\text{F} + 80\%, -20\%$ Ceramic $220\text{pF} \pm 10\%$	
Cg22 Cg23 Cg24 Cg25,	CQ93M1H223M CK45F1H223Z CC45SL1H151K CK45F1H223Z	Mylar $0.022\mu\text{F} \pm 20\%$ Ceramic $0.022\mu\text{F} + 80\%, -20\%$ Ceramic $150\text{pF} \pm 10\%$ Ceramic $0.022\mu\text{F} + 80\%, -20\%$	
26 Cg27 Cg28 Cg29~	CC45SL1H100K CC45SL1H331K CK45F1H223Z	Ceramic         10pF         ±10%           Ceramic         330pF         ±10%           Ceramic         0.022μF +80%,-20%	
Cg32 Cg33 Cg34 Cg35 Cg36 Cg37 Cg38	CE04W1C101 CK45B1H471K CK45F1H223Z CQ93M1H223M CC45SL1H221K CK45F1H223Z CQ93M1H102K	Electrolytic $100\mu\text{F}$ $16\text{WV}$ Ceramic $470\text{pF}$ $\pm 10\%$ Ceramic $0.022\mu\text{F} + 80\%, -20\%$ Mylar $0.022\mu\text{F}$ $\pm 20\%$ Ceramic $220\text{pF}$ $\pm 10\%$ Ceramic $0.022\mu\text{F} + 80\%, -20\%$	
Cg39 Cg40 Cg41, 42	CK45F1H223Z CE04W0F101 CC45SL1H331K	Mylar $0.001\mu\text{F} \pm 10\%$ Ceramic $0.022\mu\text{F} + 80\%, -20\%$ Electrolytic $100\mu\text{F}$ $3.15\text{WV}$ Ceramic $330\text{pF}$ $\pm 10\%$	
Cg43 Cg44 Cg45 Cg46 Cg47 Cg48	CC45SL1H221K CQ93M1H223M CE04W1H010 CE04W1E4R7 CQ93M1H223M CQ93M1H472M	Ceramic         220pF         ±10%           Mylar         0.022μF         ±20%           Electrolytic         1μF         50WV           Electrolytic         4.7μF         25WV           Mylar         0.022μF         ±20%           Mylar         0.0047μF         ±20%	
Cg48 Cg49	CQ93M1H472M CQ93M1H223M	Mylar 0.0047μF ±20% Mylar 0.022μF ±20%	

,		<del>,</del>		·			,
-	Ref. No.	Parts No.		Descri	ption		Re- marks
			1				
Ì	Cg50	CQ09S1H361J	Polystyre	ene	360pF	±5%	
1	Cg51	CC45SL1H180K	Ceramic		18pF	±10%	
1	Cg52	CE04W1E100	Electroly		10μF	25WV	
١	Cg53	CQ08S1H472J	Polystyre		0.0047μF		ł
Ì	Cg54	CQ08S1H682J	Polystyre		0.0068µF		
١	Cg55	CE04W1H010	Electroly		1μF	50WV	
1	Cg56	CE04W1E100	Electroly	tic .	10μF	25WV	1
1	Cg57	CQ93M1H472M	Mylar		$0.0047 \mu F$	±20%	
1	Cg58	CQ08S1H472J	Polystyre	ene	0.0047μ₹	±5%	
-	Cg59	CQ93M1H223M	Mylar		0.022µF	±20%	.
	Cg61	CE04W1E100	Electroly	rtic	10μF	25WV	
	Cg62,	CC45SL1H101K	Ceramic		100pF	±10%	
	63				,		
1	Cg64,	CK45B1H471K	Ceramic		470pF	±10%	)
	65	01(102/11111	00.0		7,00		
l	Cg66	CQ93M1H104M	Mylar		0.1μF	±20%	
I	67	CCSOMITITION	lviyiai		υ. ι μ.	-20,0	
l	Cg68	CQ93M1H822J	Mular		0.0082µF	+5%	-11,
l	1	COSSIVITION	Mylar		0,006∠μι	15%	-11, -42
l	69	00000441.1560.1	Millow		^ ^^E	+=0/	
l	2-70	CQ93M1H562J	Mylar		0.0056µF	1	-62
Ì	Cg70~	CK45F1H223Z	Ceramic	$0.022\mu$	ıF +80%,–	-20%	
ŀ	72	<u> </u>	<u> </u>				Ĺ
١		ı	RESISTOF	₹.			
ļ	Rg1	PD14BY2B102J	Carbon	1kΩ	±5%	1/8W	
l	Rg2	PD14BY2B104J	Carbon	100kΩ		1/8W	-
l	-	PD14BY2B471J			±5%	1/8W	(
ŀ	Rg3		Carbon	470Ω	±5%	1/8W	İ
l	Rg4	PD14BY2B103J	Carbon	10kΩ			
	Rg5	PD14BY2B472J	Carbon	4.7kΩ	±5%	1/8W	
	Rg6	PD14BY2B223J	Carbon	22kΩ	±5%	1/8W	
	Rg7	PD14BY2B101J	Carbon	100Ω	±5%	1/8W	
l	Rg8	PD14BY2B103J	Carbon	10kΩ	±5%	1/8W	ĺ
	Rg9	PD14BY2B223J	Carbon	22kΩ	±5%	1/8W	
	Rg10	PD14BY2B222J	Carbon	$2.2k\Omega$	±5%	1/8W	
l	Rg11	PD14BY2B221J	Carbon	$220\Omega$	±5%	1/8W	ĺ
ĺ	Rg12	PD14BY2B561J	Carbon	$560\Omega$	±5%	1/8W	
	Rg13	PD14BY2B332J	Carbon	$3.3k\Omega$	±5%	1/8W	
l	Rg14	PD14BY2B561J	Carbon	$560\Omega$	±5%	1/8W	
	Rg15,	PD14BY2B680J	Carbon	$68\Omega$	±5%	1/8W	İ
l	16						İ
١	Rg17	PD14BY2B103J	Carbon	10kΩ	±5%	1/8W	
	Rg18	PD14BY2B102J	Carbon	1kΩ	±5%	1/8W	ł
l	Rg19	PD14BY2B104J	Carbon	100kΩ	Lear	1/8W	
l	Rg20	PD14BY2B102J	Carbon	1kΩ	±5%	1/8W	
ľ	Rg21,	PD14BY2B103J	Carbon	10kΩ	±5%	1/8W	
	22	FD1401201000	Carbon	1065	O 70	1,0	
l	Rg23	PD14BY2B222J	Carbon	2.2kΩ	±5%	1/8W	
	- 1		Carbon	750			Ι.,
	Rg24	PD14BY2B333J	Carbon	33kΩ	±5%	1/8W	ĺ
	Rg25	PD14BY2B102J	Carbon	1kΩ	±5%	1/8W	
	Rg26	PD14BY2B123J	Carbon	12kΩ	±5%	1/8W	
١	Rg27	PD14BY2B682J	Carbon	6.8kΩ	±5%	1/8W	ĺ
	Rg28	PD14BY2B101J	Carbon	100Ω	±5%	1/8W	
	Rg29	PD14BY2B332J	Carbon	$3.3k\Omega$	±5%	1/8W	
	Rg30	PD14BY2B103J	Carbon	10kΩ	±5%	1/8W	ĺ
	Rg31	PD14BY2B102J	Carbon	$1$ k $\Omega$	±5%	1/8W	l
	Rg32	PD14BY2B471J	Carbon	$470\Omega$	±5%	1/8W	
	Rg33	PD14BY2B223J	Carbon	$22k\Omega$	±5%	1/8W	
	Rg34	PD14BY2B821J	Carbon	820Ω	±5%	1/8W	
	Rg35	PD14BY2B332J	Carbon	$3.3k\Omega$	±5%	1/8W	
	Rg36,	PD14BY3B471J	Carbon	$470\Omega$	±5%	1/8W	
	i i	. i					

PD14BY2B103J Carbon 10kΩ ±5% 1/8W

| PD14BY2B101J | Carbon | 10Ω ±5% | PD14BY2B153J | Carbon | 15kΩ ±5% |

Carbon  $12k\Omega$   $\pm 5\%$ 

Carbon 15kΩ ±5% 1/8W

1/8W

1/8W

## **PARTS LIST**

Ref. No.   Parts No.   Description   Transitor   Rg42   PD14BY2B562J   Carbon 5.6kΩ				Re-	
Rg43	Ref. No.	Parts No.	Description		
R943	Ra42	PD14BY2B562J	Carbon 5.6kΩ ±5% 1/8W		
Rg45         PD14BY2B223J         Carbon 22kΩ         ±5%         1/8W           Rg47         PD14BY2B103J         Carbon 150kΩ         ±5%         1/8W           Rg48         PD14BY2B103J         Carbon 10kΩ         ±5%         1/8W           Rg50         PD14BY2B103J         Carbon 220Ω         ±5%         1/8W           Rg51         PD14BY2B221J         Carbon 47kΩ         ±5%         1/8W           Rg52         PD14BY2B102J         Carbon 47kΩ         ±5%         1/8W           Rg53         PD14BY2B224J         Carbon 1kΩ         ±5%         1/8W           Rg55         PD14BY2B22JJ         Carbon 1kΩ         ±5%         1/8W           Rg65         PD14BY2B30JJ         Carbon 100Ω         ±5%         1/8W           Rg66         PD14BY2B33JJ         Carbon 100Ω         ±5%         1/8W           Rg61         PD14BY2B32DJ         Carbon 100Ω         ±5%         1/8W           Rg62         PD14BY2B33J         Carbon 10kΩ         ±5%         1/8W           Rg63         PD14BY2B32J         Carbon 10kΩ         ±5%         1/8W           Rg66         PD14BY2B33J         Carbon 10kΩ         ±5%         1/8W           Rg66         P	1 -	PD14BY2B101J	Carbon 100Ω ±5% 1/8W		
R946   PD14BY2B154J   R947   PD14BY2E10ZJ   R948   PD14BY2B103J   R950   PD14BY2B103J   R950   PD14BY2B10ZJ   R953   PD14BY2B10ZJ   R952   PD14BY2B10ZJ   R953   PD14BY2B10ZJ   R955   PD14BY2B10ZJ   R956   PD14BY2B10ZJ   R957   PD14BY2B10ZJ   R958   PD14BY2B10ZJ   R959   PD14BY2B10ZJ   R959   PD14BY2B10ZJ   R959   PD14BY2B10ZJ   R959   PD14BY2B10ZJ   R959   PD14BY2B10ZJ   R959   PD14BY2B10ZJ   R959   PD14BY2B10ZJ   R950   PD14BY2B10ZJ   R950   PD14BY2B10ZJ   R950   PD14BY2B10ZJ   R950   PD14BY2B2ZJ   R950   R914BY2B2ZJ   R950   R914BY2B10ZJ   R950   R914BY2B10ZJ   R950   R95	Rg44	PD14BY2B222J	Carbon 2.2k $\Omega$ ±5% 1/8W		
R947   PD14BY2E102J   Carbon 1kΩ	Rg45	PD14BY2B223J	Carbon 22kΩ ±5% 1/8W		
R947   PD14BY2E102J   Carbon 1kΩ	Rg46	PD14BY2B154J		1	
Rg48			•		
Rg49	1 -		<b>!</b> .		
Rg50         PD14BY2B473J         Carbon 47kΩ         ±5% 1/8W           Rg51         PD14BY2B221J         Carbon 220Ω         ±5% 1/8W           Rg52         PD14BY2B102J         Carbon 1kΩ         ±5% 1/8W           Rg55         PD14BY2B172J         Carbon 1kΩ         ±5% 1/8W           Rg56         PD14BY2B101J         Carbon 100Ω         ±5% 1/8W           Rg67         PD14BY2B103J         Carbon 100Ω         ±5% 1/8W           Rg69         PD14BY2B333J         Carbon 100Ω         ±5% 1/8W           Rg61         PD14BY2B472J         Carbon 100Ω         ±5% 1/8W           Rg61         PD14BY2B472J         Carbon 100Ω         ±5% 1/8W           Rg61         PD14BY2B472J         Carbon 100Ω         ±5% 1/8W           Rg62         PD14BY2B22UJ         Carbon 100Ω         ±5% 1/8W           Rg63         PD14BY2B123J         Carbon 120kΩ         ±5% 1/8W           Rg66         PD14BY2B103J         Carbon 10kΩ         ±5% 1/8W           Rg68         PD14BY2B103J         Carbon 10kΩ         ±5% 1/8W           Rg68         PD14BY2B103J         Carbon 10kΩ         ±5% 1/8W           Rg70         PD14BY2B103J         Carbon 10kΩ         ±5% 1/8W           Rg7a </td <td>1 -</td> <td></td> <td></td> <td></td>	1 -				
Rg51	1 ~	1			
Rg52 Rg53, 54         PD14BY2B102J PD14BY2B101J Rg56         Carbon 1kΩ PD14BY2B101J PD14BY2B101J Rg57         ±5% 1/8W PD14BY2B101J PD14BY2B103J Rg60         ±5% 1/8W PD14BY2B103J PD14BY2B103J Rg60         ±5% 1/8W PD14BY2B103J PD14BY2B103J Rg60         ±5% 1/8W PD14BY2B103J PD14BY2B103J Rg61         ±5% 1/8W PD14BY2B103J PD14BY2B2DJ Rg62         ±5% 1/8W PD14BY2B103J PD14BY2B103J PD14BY2B103J PD14BY2B103J PD14BY2B103J Rg69         ±5% 1/8W PD14BY2B103J	1 -	l ·			
Rg53, 64         PD14BY2B472J         Carbon 220kΩ ±5% 1/8W           Rg55         PD14BY2B101J         Carbon 100Ω ±5% 1/8W           Rg56         PD14BY2B103J         Carbon 100Ω ±5% 1/8W           Rg59         PD14BY2B333J         Carbon 100Ω ±5% 1/8W           Rg69         PD14BY2B333J         Carbon 33kΩ ±5% 1/8W           Rg61         PD14BY2B472J         Carbon 47kΩ ±5% 1/8W           Rg62         PD14BY2B220J         Carbon 22Ω ±5% 1/8W           Rg63         PD14BY2B22J         Carbon 120kΩ ±5% 1/8W           Rg66, PD14BY2B12J         Carbon 120kΩ ±5% 1/8W           Rg66, PD14BY2B103J         Carbon 120kΩ ±5% 1/8W           Rg68         PD14BY2B103J         Carbon 120kΩ ±5% 1/8W           Rg70, PD14BY2B103J         Carbon 120kΩ ±5% 1/8W           Rg74, PD14BY2B103J         Carbon 100kΩ ±5% 1/8W           Rg74, PD14BY2B103J         Carbon 100kΩ ±5% 1/8W           Rg74, PD14BY2B103J         Carbon 100kΩ ±5% 1/8W           Rg77+ P3         PD14BY2B103J         Carbon 10kΩ ±5% 1/8W           Rg77+ P3         PD14BY2B103J         Carbon 10kΩ ±5% 1/8W           Rg77- 79         PD14BY2B103J         Carbon 10kΩ ±5% 1/8W           Rg7- 7- 79         PD14BY2B103J         Carbon 10kΩ ±5% 1/8W           Rg7- 7- 79	1 -	1			
Rg65		ĺ			
Rg55         PD14BY2B472J         Carbon 4.7kΩ ±5% 1/8W           Rg56         PD14BY2B101J         ±5% 1/8W           Rg57         PD14BY2B103J         Carbon 100Ω ±5% 1/8W           Rg69         PD14BY2B333J         Carbon 100Ω ±5% 1/8W           Rg61         PD14BY2B472J         Carbon 4.7kΩ ±5% 1/8W           Rg61         PD14BY2B220J         Carbon 22Ω ±5% 1/8W           Rg63         PD14BY2B21J         Carbon 22Ω ±5% 1/8W           Rg66         PD14BY2B124J         Carbon 120kΩ ±5% 1/8W           Rg66         PD14BY2B103J         Carbon 120kΩ ±5% 1/8W           Rg66         PD14BY2B103J         Carbon 120kΩ ±5% 1/8W           Rg68         PD14BY2B103J         Carbon 120kΩ ±5% 1/8W           Rg69         PD14BY2B103J         Carbon 10kΩ ±5% 1/8W           Rg70         PD14BY2B103J         Carbon 10kΩ ±5% 1/8W           Rg74         PD14BY2B103J         Carbon 10kΩ ±5% 1/8W           Rg77         PD14BY2B103J         Carbon 10kΩ ±5% 1/8W           Rg77         PD14BY2B103J         Carbon 10kΩ ±5% 1/8W           Rg101~         PD14BY2B33J         Carbon 10kΩ ±5% 1/8W           Rg77~         PD14BY2B13J         Carbon 10kΩ ±5% 1/8W           Rg101~         Tarsistor 28(34 (0)         Tarsis		101401202240	Carbon 220822 = 370 17000		
Rg56   PD14BY2B101J   Carbon 100Ω	1	PD1/BV2B/721	Carbon 47k0 +5% 1/8W		
Rg57 58 Rg59         PD14BY2B103J PD14BY2B333J Rg60         Carbon 10kΩ         ±5%         1/8W           Rg61 Rg61 Rg61         PD14BY2B33J PD14BY2B220J PD14BY2B221J         Carbon 100Ω Carbon 4.7kΩ         ±5%         1/8W           Rg62 Rg63         PD14BY2B22J PD14BY2B22JJ         Carbon 22ΩΩ Carbon 22ΩΩ         ±5%         1/8W           Rg63 F014BY2B124J Rg66, PD14BY2B103J Carbon 10kΩ         Carbon 120kΩ Carbon 10kΩ         ±5%         1/8W           Rg68 F014BY2B103J Rg69 PD14BY2B103J Carbon 10kΩ         Carbon 120kΩ Carbon 120kΩ Carbon 10kΩ         ±5%         1/8W           Rg73 Rg70, PD14BY2B103J PD14BY2B103J 75         Carbon 100kΩ Carbon 12kΩ         ±5%         1/8W           Rg77~ P9 Rg101~ 103         PD14BY2B104J PD14BY2B102J PD14BY2B102J Carbon 100kΩ PD14BY2B33J         Carbon 100kΩ Carbon 10kΩ Carbon 1kΩ         ±5%         1/8W           Rg77~ PG Rg101~ 103         PD14BY2B33J PD14BY2B33J         Carbon 33kΩ Carbon 1kΩ         ±5%         1/8W           Rg77~ Rg101~ 29         PD14BY2B33J PD14BY2B33J         Carbon 100kΩ Carbon 10kΩ         ±5%         1/8W           Rg77~ Rg70 Rg101~ 103         PD14BY2B33J PD14BY2B33J PD14BY2B33J PD14BY2B33J PD14BY2B33J PD14BY2B33J PD14BY2B33J PD14BY2B33J PD14BY2B33J PD14BY	1 -	1		1 1	
Rg59	1 -	1			
Rg59         PD14BY2B333J         Carbon 33kΩ         ±5%         1/8W           Rg61         PD14BY2B472J         Carbon 100Ω         ±5%         1/8W           Rg61         PD14BY2B472J         Carbon 4.7kΩ         ±5%         1/8W           Rg63         PD14BY2B220J         Carbon 220Ω         ±5%         1/8W           Rg65         PD14BY2B124J         Carbon 120kΩ         ±5%         1/8W           Rg66         PD14BY2B103J         Carbon 10kΩ         ±5%         1/8W           Rg69         PD14BY2B103J         Carbon 120kΩ         ±5%         1/8W           Rg70         PD14BY2B103J         Carbon 10kΩ         ±5%         1/8W           Rg74         PD14BY2B104J         Carbon 10kΩ         ±5%         1/8W           Rg77~         PD14BY2B102J         Carbon 10kΩ         ±5%         1/8W           Rg77~         PD14BY2B333J         Carbon 10kΩ         ±5%         1/8W           SEMICONDUCTOR           SEMICONDUCTOR           Carbon 12kΩ         ±5%         1/8W           Transistor 2SC331 (O)           Transistor 2SC331 (O)           Carbon 12kΩ         ±5%         1/8W     <		PD1481281033	Carbon 10k225% 1/8W		
Rg60   PD14BY2B101J   Carbon 100Ω	1	BD14DV0D0001	O-1 2010 - +EN 1/0W	1	
Rg61         PD14BY2B472J         Carbon 4.7kΩ         ±5%         1/8W           Rg62         PD14BY2B220J         Carbon 22Ω         ±5%         1/8W           Rg63         PD14BY2B221J         Carbon 22ΩΩ         ±5%         1/8W           Rg65         PD14BY2B124J         Carbon 120kΩ         ±5%         1/8W           Rg68         PD14BY2B333J         Carbon 33kΩ         ±5%         1/8W           Rg69         PD14BY2B103J         Carbon 120kΩ         ±5%         1/8W           Rg70         PD14BY2B104J         Carbon 100kΩ         ±5%         1/8W           Rg74         PD14BY2B104J         Carbon 100kΩ         ±5%         1/8W           Rg76         PD14BY2B104J         Carbon 100kΩ         ±5%         1/8W           Rg77~         P014BY2B102J         Carbon 10kΩ         ±5%         1/8W           Rg77~         P014BY2B333J         Carbon 33kΩ         ±5%         1/8W           SEMICONDUCTOR           SEMICONDUCTOR           Qg1         FET         2SK19 (Y) or (GR)           Transistor         2SC381 (O)         T(B)           Transistor         2SC381 (O) or (R)           Transistor         2SC381 (O) or (	1 -				
Rg62   PD14BY2B22J   Carbon 22Ω	-				
Rg63         PD14BY2B221J         Carbon 220Ω         ±5%         1/8W           Rg65         PD14BY2B124J         Carbon 120kΩ         ±5%         1/8W           Rg66, 67         PD14BY2B103J         Carbon 10kΩ         ±5%         1/8W           Rg68         PD14BY2B124J         Carbon 120kΩ         ±5%         1/8W           Rg70, 71         PD14BY2B103J         Carbon 120kΩ         ±5%         1/8W           Rg74, 71         PD14BY2B104J         Carbon 100kΩ         ±5%         1/8W           Rg74, 75         PD14BY2B104J         Carbon 100kΩ         ±5%         1/8W           Rg76         PD14BY2B102J         Carbon 100kΩ         ±5%         1/8W           Rg77~         PD14BY2B333J         Carbon 100kΩ         ±5%         1/8W           SEMICONDUCTOR           SEMICONDUCTOR           Carbon 13kΩ         ±5%         1/8W           Transistor 2SC381 (O)           Transistor 2SC381 (O)           Transistor 2SC381 (O)           Transistor 2SC381 (O)           Transistor 2SC381 (O) or (R)           Transistor 2SC381 (O) or (R)           Transistor 2SC381 (O) or (R)	_			1 1	
Rg65         PD14BY2B124J         Carbon 120kΩ ±5% 1/8W           Rg66         PD14BY2B103J         Carbon 10kΩ ±5% 1/8W           67         Pg68         PD14BY2B333J         Carbon 33kΩ ±5% 1/8W           Rg69         PD14BY2B104J         Carbon 120kΩ ±5% 1/8W           Rg70         PD14BY2B103J         Carbon 100kΩ ±5% 1/8W           71         PD14BY2B104J         Carbon 100kΩ ±5% 1/8W           Rg74         PD14BY2B104J         Carbon 100kΩ ±5% 1/8W           Rg77~         PD14BY2B102J         Carbon 100kΩ ±5% 1/8W           Rg77~         PD14BY2B333J         Carbon 33kΩ ±5% 1/8W           SEMICONDUCTOR           SEMICONDUCTOR           SEMICONDUCTOR           Gg1           Gg2         Transistor 2SC381 (O)           Transistor 2SC381 (O)         Transistor 2SC381 (O)           Transistor 2SC381 (O)         Transistor 2SC460 (B)           Transistor 2SC460 (B)         Transistor 2SC945 (Q) or (R)           Transistor 2SC945 (Q) or (R)         Transistor 2SC945 (Q) or (R)           Transistor 2SC945 (Q) or (R)         Transistor 2SC945 (Q) or (R)           Dg1         Diode 1N60           Dg3,4         Diode 1N60           Dg6,7         Diode 1N60					
Rg66, 67         PD14BY2B103J         Carbon 10kΩ         ±5% 1/8W           Rg68         PD14BY2B333J         Carbon 33kΩ         ±5% 1/8W           Rg69         PD14BY2B124J         Carbon 120kΩ         ±5% 1/8W           Rg70, 71         PD14BY2B103J         Carbon 100kΩ         ±5% 1/8W           Rg74, 75         PD14BY2B123J         Carbon 12kΩ         ±5% 1/8W           Rg76         PD14BY2B104J         Carbon 100kΩ         ±5% 1/8W           Rg77~         PD14BY2B102J         Carbon 1kΩ         ±5% 1/8W           Rg77~         PD14BY2B333J         Carbon 3kΩ         ±5% 1/8W           SEMICONDUCTOR           SEMICONDUCTOR           SEMICONDUCTOR           Carbon 3kΩ         ±5% 1/8W           SEMICONDUCTOR           SEMICONDUCTOR           SEMICONDUCTOR           SEMICONDUCTOR           SEMICONDUCTOR           SEMICONDUCTOR           SEMICONDUCTOR           SEMICONDUCTOR           SEMICONDUCTOR           Carbon 32kΩ         ±5% 1/8W           Tarasistor 2SC381 (O) or (E) <td colspa<="" td=""><td>Rg63</td><td>PD14BY2B221J</td><td>Carbon 220<math>\Omega</math> ±5% 1/8W</td><td></td></td>	<td>Rg63</td> <td>PD14BY2B221J</td> <td>Carbon 220<math>\Omega</math> ±5% 1/8W</td> <td></td>	Rg63	PD14BY2B221J	Carbon 220 $\Omega$ ±5% 1/8W	
Rg66, 67         PD14BY2B103J         Carbon 10kΩ         ±5% 1/8W           Rg68         PD14BY2B333J         Carbon 33kΩ         ±5% 1/8W           Rg69         PD14BY2B124J         Carbon 120kΩ         ±5% 1/8W           Rg70, 71         PD14BY2B103J         Carbon 100kΩ         ±5% 1/8W           Rg74, 75         PD14BY2B123J         Carbon 12kΩ         ±5% 1/8W           Rg77, 75         PD14BY2B104J         Carbon 100kΩ         ±5% 1/8W           Rg77, 79         PD14BY2B102J         Carbon 1kΩ         ±5% 1/8W           Rg70, 79         PD14BY2B333J         Carbon 33kΩ         ±5% 1/8W           SEMICONDUCTOR           SEMICONDUCTOR           SEMICONDUCTOR           Carbon 33kΩ         ±5% 1/8W           D0 (B)           Carbon 33kΩ         ±5% 1/8W           SEMICONDUCTOR           SEMICONDUCTOR           SEMICONDUCTOR           SEMICONDUCTOR           FET         2SK19 (Y) or (GR)           Carbon 33kΩ         ±5% 1/8W           Transistor 2SC381 (O)           Carbon 32kΩ         Transistor 2SC381 (O) or (R) <td></td> <td></td> <td>·</td> <td></td>			·		
Rg68	1 - 1				
Rg68	- 1	PD14BY2B103J	Carbon 10k $\Omega$ ±5% 1/8W		
Rg69				1 1	
Rg70, 71         PD14BY2B103J         Carbon 10kΩ         ±5%         1/8W           Rg73         PD14BY2B104J         Carbon 100kΩ         ±5%         1/8W           Rg74, 75         PD14BY2B123J         Carbon 12kΩ         ±5%         1/8W           Rg76         PD14BY2B104J         Carbon 100kΩ         ±5%         1/8W           Rg77~         PD14BY2B102J         Carbon 1kΩ         ±5%         1/8W           SEMICONDUCTOR           SEMICONDUCTOR           Qg1         FET 2SK19 (Y) or (GR) 2SK55 (D) or (E)           Transistor 2SC381 (O)           Transistor 2SC381 (O)           Transistor 2SC381 (O)           Transistor 2SC381 (O) or (R)           Transistor 2SC381 (O) or (R)           Transistor 2SC945 (Q) or (R)           Transistor 2SC945 (Q) or (R)           Transistor 2SC945 (Q) or (R)           Transistor 2SC945 (Q) or (R)           Transistor 2SC945 (Q) or (R)           Transistor 2SC945 (Q) or (R)           Transistor 2SC945 (Q) or (R)           Diode 1N60           Diode 1N60           Diode 1N60	Rg68	PD14BY2B333J		j:	
Rg73	Rg69	PD14BY2B124J	Carbon 120k $\Omega$ ±5% 1/8W	1	
Rg73	Rg70,	PD14BY2B103J	Carbon $10k\Omega$ $\pm 5\%$ $1/8W$		
Rg74, 75   PD14BY2B123J   Carbon 12kΩ ±5% 1/8W   75   Rg76   PD14BY2B104J   Carbon 100kΩ ±5% 1/8W   PD14BY2B102J   Carbon 1kΩ ±5% 1/8W   79   Rg101~ PD14BY2B333J   Carbon 33kΩ ±5% 1/8W   To ransistor 2SC381 (O)   Transistor	71				
Rg74, 75   PD14BY2B123J   Carbon 12kΩ ±5% 1/8W   75   Rg76   PD14BY2B104J   Carbon 100kΩ ±5% 1/8W   PD14BY2B102J   Carbon 1kΩ ±5% 1/8W   79   Rg101~ PD14BY2B333J   Carbon 33kΩ ±5% 1/8W   To ransistor 2SC381 (O)   Transistor					
75   Rg76   PD14BY2B104J   Carbon 100kΩ ±5% 1/8W   Rg77~ PD14BY2B102J   Carbon 1kΩ ±5% 1/8W   79   Rg101~ PD14BY2B33J   Carbon 33kΩ ±5% 1/8W   103   SEMICONDUCTOR	Rg73	PD14BY2B104J	Carbon 100k $\Omega$ ±5% 1/8W	1 1	
Rg76   Rg77~ PD14BY2B104J   Carbon 100kΩ ±5% 1/8W   PD14BY2B102J   Carbon 1kΩ ±5% 1/8W   Tolor 103   PD14BY2B33J   Carbon 33kΩ ±5% 1/8W   PD14BY2B33J   Carbon 33kΩ ±5% 1/8W   PD14BY2B333J   Exborded Tolor 108W   Exborded Tolor	Rg74,	PD14BY2B123J	Carbon $12k\Omega$ $\pm 5\%$ $1/8W$		
Rg77~ PD14BY2B102J   Carbon 1kΩ ±5% 1/8W   79   Rg101~ PD14BY2B333J   Carbon 33kΩ ±5% 1/8W   SEMICONDUCTOR   FET 2SK19 (Y) or (GR) 2SK55 (D) or (E)   Transistor 2SC381 (O)   Transistor 2SC381 (O)   Transistor 2SC381 (O)   Transistor 2SC381 (O)   Transistor 2SC381 (O)   Transistor 2SC381 (O)   Transistor 2SC381 (O)   Transistor 2SC381 (O)   Transistor 2SC460 (B)   Transistor 2SC460 (B)   Transistor 2SC945 (Q) or (R)   Transistor 2SC945 (Q) or (R)   Transistor 2SC945 (P) or (Q)   Transistor 2SC945 (Q) or (R)   Transistor	75			1	
Rg101	Rg76	PD14BY2B104J	Carbon $100$ k $\Omega$ $\pm 5\%$ $1/8$ W	1 1	
Rg101	Rg77~	PD14BY2B102J	Carbon $1k\Omega$ $\pm 5\%$ $1/8W$		
SEMICONDUCTOR   SEMICONDUCTOR	79				
SEMICONDUCTOR           Qg1         FET 2SK19 (Y) or (GR) 2SK55 (D) or (E)           Qg2         Transistor 2SC381 (O)           Qg3         Transistor 2SC1342 (A) or (B)           Qg4         Transistor 2SC381 (O) or (R)           Qg5~7         Transistor 2SC460 (B)           Qg9         Transistor 2SC945 (Q) or (R)           Qg10         Transistor 2SA733 (Q) or (R)           Transistor 2SC945 (P) or (Q)         Transistor 2SC945 (Q) or (R)           Qg12         Transistor 2SC945 (Q) or (R)           Transistor 2SC945 (Q) or (R)         Transistor 2SC945 (Q) or (R)           Dg1         Diode 1S1555           Dg2         Diode 1N60           Dg3,4         Diode 1S1555           Dg5         Diode 1N60           Dg6,7         Diode 1S1555           Diode M8513A-O         Diode 1N60           Dg9,10         Diode 1N60           Dg11~         Diode 1S1555	Rg101∼	PD14BY2B333J	Carbon 33k $\Omega$ ±5% 1/8W		
Qg1       FET 2SK19 (Y) or (GR) 2SK55 (D) or (E)         Qg2       Transistor 2SC381 (O)         Qg3       Transistor 2SC1342 (A) or (B)         Qg4       Transistor 2SC381 (O) or (R)         Qg5~7       Transistor 2SC381 (O)         Qg8       Transistor 2SC460 (B)         Qg9       Transistor 2SC945 (Q) or (R)         Qg10       Transistor 2SC945 (P) or (Q)         Qg11       Transistor 2SC945 (P) or (Q)         Qg12       Transistor 2SC945 (Q) or (R)         Qg13       Transistor 2SC945 (Q) or (R)         Dg1       Diode 1S1555         Dg2       Diode 1N60         Dg3,4       Diode 1S1555         Dg6,7       Diode 1N60         Dg6,7       Diode M8513A-O         Dg9,10       Diode 1N60         Dg11~       Diode 1N60         Dg117~       Diode 1N60         Diode 1N60       Diode 1N60         Diode 1N60       Diode 1N60	103				
Qg2       Transistor 2SC381 (O)         Qg3       Transistor 2SC1342 (A) or (B)         Qg4       Transistor 2SC381 (O) or (R)         Qg5~7       Transistor 2SC381 (O)         Qg8       Transistor 2SC460 (B)         Qg9       Transistor 2SC945 (Q) or (R)         Qg10       Transistor 2SC945 (P) or (Q)         Qg12       Transistor 2SC945 (Q) or (R)         Qg13       Transistor 2SC945 (Q) or (R)         Transistor 2SC945 (Q) or (R)       Transistor 2SC945 (Q) or (R)         Dg1       Diode 1S1555         Dg2       Diode 1N60         Dg3,4       Diode 1S1555         Dg5       Diode 1N60         Dg6,7       Diode M8513A-O         Dg9,10       Diode 1N60         Dg11~       Diode 1S1555         Diode 1N60       Diode 1N60         Dg11~       Diode 1S1555		SEM	ICONDUCTOR		
Og2       Transistor 2SC381 (O)         Og3       Transistor 2SC1342 (A) or (B)         Og4       Transistor 2SC381 (O) or (R)         Og5~7       Transistor 2SC460 (B)         Og9       Transistor 2SC945 (Q) or (R)         Og10       Transistor 2SC945 (P) or (Q)         Og11       Transistor 2SC945 (P) or (Q)         Og12       Transistor 2SC945 (Q) or (R)         Og13       Transistor 2SC945 (Q) or (R)         Dg1       Diode 1S1555         Dg2       Diode 1N60         Dg3,4       Diode 1S1555         Dg5       Diode 1N60         Dg6,7       Diode 1S1555         Dg8       Diode M8513A-O         Dg9,10       Diode 1N60         Dg11~       Diode 1N60         Dg11~       Diode 1S1555	Qg1				
Qg3       Transistor 2SC1342 (A) or (B)         Qg4       Transistor 2SC381 (O) or (R)         Qg5~7       Transistor 2SC460 (B)         Qg9       Transistor 2SC945 (Q) or (R)         Qg10       Transistor 2SC945 (P) or (Q)         Qg11       Transistor 2SC945 (P) or (Q)         Qg12       Transistor 2SC945 (Q) or (R)         Qg13       Transistor 2SC945 (Q) or (R)         Dg1       Diode 1S1555         Dg2       Diode 1N60         Dg3,4       Diode 1S1555         Dg5       Diode 1N60         Dg6,7       Diode 1S1555         Dg8       Diode M8513A-O         Dg9,10       Diode 1N60         Dg11~       Diode 1N60         Dg11~       Diode 1S1555	0.0				
Qg4       Transistor 2SC381 (O) or (R)         Qg5~7       Transistor 2SC381 (O)         Qg8       Transistor 2SC460 (B)         Qg9       Transistor 2SC945 (Q) or (R)         Qg10       Transistor 2SC945 (P) or (Q)         Qg11       Transistor 2SC945 (P) or (Q)         Qg12       Transistor 2SC945 (Q) or (R)         Qg13       Transistor 2SC945 (Q) or (R)         Dg1       Diode 1S1555         Dg2       Diode 1N60         Dg3,4       Diode 1S1555         Dg5       Diode 1N60         Dg6,7       Diode 1S1555         Dg8       Diode M8513A-O         Dg9,10       Diode 1N60         Dg11~       Diode 1S1555         13       Diode 1S1555	- 1				
Qg5~7       Transistor 2SC381 (O)         Qg8       Transistor 2SC460 (B)         Qg9       Transistor 2SC945 (Q) or (R)         Transistor 2SA733 (Q) or (R)       Transistor 2SC945 (P) or (Q)         Qg11       Transistor 2SC945 (Q) or (R)         Qg12       Transistor 2SC945 (Q) or (R)         Transistor 2SC945 (Q) or (R)         Dg1       Diode 1S1555         Dg2       Diode 1N60         Dg3,4       Diode 1S1555         Dg5       Diode 1N60         Dg6,7       Diode 1S1555         Dg8       Diode M8513A-O         Dg9,10       Diode 1N60         Dg11~       Diode 1S1555         13       Diode 1S1555	1				
Qg8       Transistor       2SC460 (B)         Qg9       Transistor       2SC945 (Q) or (R)         Qg10       Transistor       2SA733 (Q) or (R)         Transistor       2SC945 (P) or (Q)         Transistor       2SC945 (Q) or (R)         Transistor       2SC945 (Q) or (R)         Dg1       Diode       1S1555         Dg2       Diode       1N60         Dg3,4       Diode       1S1555         Dg6       Diode       1N60         Dg6,7       Diode       1S1555         Dg8       Diode       M8513A-O         Dg9,10       Diode       1N60         Dg11~       Diode       1S1555         13       Diode       1S1555					
Qg9       Transistor 2SC945 (Q) or (R)         Qg10       Transistor 2SA733 (Q) or (R)         Qg11       Transistor 2SC945 (P) or (Q)         Transistor 2SC945 (Q) or (R)       Transistor 2SC945 (Q) or (R)         Dg1       Diode 1S1555         Dg2       Diode 1N60         Dg3,4       Diode 1S1555         Dg5       Diode 1N60         Dg6,7       Diode 1S1555         Dg8       Diode M8513A-O         Dg9,10       Diode 1N60         Dg11~       Diode 1S1555         13       Diode 1S1555	1				
Qg10       Transistor 2SA733 (Q) or (R)         Qg11       Transistor 2SC945 (P) or (Q)         Transistor 2SC945 (Q) or (R)       Transistor 2SC945 (Q) or (R)         Dg1       Diode 1S1555         Dg2       Diode 1N60         Dg3,4       Diode 1S1555         Dg5       Diode 1N60         Dg6,7       Diode 1S1555         Dg8       Diode M8513A-O         Dg9,10       Diode 1N60         Dg11~       Diode 1S1555         13       Diode 1S1555	_				
Qg11       Transistor 2SC945 (P) or (Q)         Qg12       Transistor 2SC945 (Q) or (R)         Transistor 2SC945 (Q) or (R)         Dg1       Diode 1S1555         Dg2       Diode 1N60         Dg3,4       Diode 1S1555         Dg5       Diode 1N60         Dg6,7       Diode 1S1555         Dg8       Diode M8513A-O         Dg9,10       Diode 1N60         Dg11~       Diode 1S1555         13       Diode 1S1555					
Qg12       Transistor 2SC945 (Q) or (R)         Transistor 2SC945 (Q) or (R)         Dg1       Diode 1S1555         Dg2       Diode 1N60         Dg3,4       Diode 1S1555         Dg5       Diode 1N60         Dg6,7       Diode 1S1555         Dg8       Diode M8513A-O         Dg9,10       Diode 1N60         Dg11~       Diode 1S1555         13       Diode 1S1555	- 1				
Og13       Transistor 2SC945 (Q) or (R)         Dg1       Diode 1S1555         Dg2       Diode 1N60         Dg3,4       Diode 1S1555         Dg5       Diode 1N60         Dg6,7       Diode 1S1555         Dg8       Diode M8513A-O         Dg9,10       Diode 1N60         Dg11~       Diode 1S1555         13       Diode 1S1555					
Dg1 Diode 1S1555 Dg2 Diode 1N60 Dg3,4 Diode 1S1555 Dg5 Diode 1N60 Dg6,7 Diode 1S1555 Dg8 Diode M8513A-O Dg9,10 Diode 1N60 Dg11~ Dg11~ 13			Transistor 2SC945 (Q) or (R)		
Dg2     Diode     1N60       Dg3,4     Diode     1S1555       Dg5     Diode     1N60       Dg6,7     Diode     1S1555       Dg8     Diode     M8513A-O       Dg9,10     Diode     1N60       Dg11~     Diode     1S1555       13	Qg13		Transistor 2SC945 (Q) or (R)		
Dg2     Diode     1N60       Dg3,4     Diode     1S1555       Dg5     Diode     1N60       Dg6,7     Diode     1S1555       Dg8     Diode     M8513A-O       Dg9,10     Diode     1N60       Dg11~     Diode     1S1555       13					
Dg2     Diode     1N60       Dg3,4     Diode     1S1555       Dg5     Diode     1N60       Dg6,7     Diode     1S1555       Dg8     Diode     M8513A-O       Dg9,10     Diode     1N60       Dg11~     Diode     1S1555       13					
Dg3,4     Diode     1S1555       Dg5     Diode     1N60       Dg6,7     Diode     1S1555       Dg8     Diode     M8513A-O       Dg9,10     Diode     1N60       Dg11~     Diode     1S1555       13     Diode     1S1555	Dg1	,	Diode 1S1555		
Dg5     Diode 1N60       Dg6,7     Diode 1S1555       Dg8     Diode M8513A-O       Dg9,10     Diode 1N60       Dg11~     Diode 1S1555       13     Diode 1S1555	Dg2		Diode 1N60		
Dg6,7     Diode     1S1555       Dg8     Diode     M8513A-O       Dg9,10     Diode     1N60       Dg11~     Diode     1S1555       13     Diode     1S1555	Dg3,4		Diode 1S1555		
Dg6,7     Diode     1S1555       Dg8     Diode     M8513A-O       Dg9,10     Diode     1N60       Dg11~     Diode     1S1555       13     Diode     1S1555	Dg5		Diode 1N60	] "· [	
Dg8 Diode M8513A-O Dg9,10 Diode 1N60 Dg11~ Diode 1S1555 13			Diode 1S1555		
Dg9,10 Diode 1N60 Diode 1S1555					
Dg11~ Diode 1S1555					
13				1	
	1		Zener diode DZ140		
the state of the s				1 I	

Ref. No.	Parts No.	Description	Re- marks
Dg15 Dg16~ 18		Diode 1N60 Diode 1S1555	
Dg19~ 23	Ç	Diode 1N60	
	COIL/IFT/FILT	ER/TRIMMER CAPACITOR	
TCg1	C05-0055-05	Ceramic trimmer capacitor	
Tg1 Tg2 Tg3	L34-0410-05 L34-0436-05 L34-0409-05	FM ANT coil FM RF coil FM OSC coil	-11,
T94 T95 T96 T97 T98 T99 T910 T911 T912 T913 T914 L91 L91 L92 L93~5	L34-0412-05 L30-0257-05 L30-0258-05 L30-0261-05 L30-0259-05 L30-0262-05 L30-0260-05 L30-0052-05 L30-0082-05 L35-0044-05 L35-0056-05 L35-0055-05	FM OSC coil FM IFT FM IFT AM IFT FM IFT AM IFT FM discriminator coil AM IFT AM OSC MPX coil (19kHz) MPX coil (67kHz) MPX coil (38kHz)  Choke coil Ferri-inductor Ferri-inductor	-62 -42
Lg6		Ferir-inductor  SCELLANEOUS	l
CE01		T T T T T T T T T T T T T T T T T T T	
CFg1 —	L72-0014-05 C01-0172-05	Ceramic filter  Variable capacitor	-11, -62
_ _	C01-0181-05 F10-0320-04 F10-0323-03	Variable capacitor Shield plate Shield plate	-42
	J25-0930-12	PC board	

#### ■ MAIN AMP (X07-1280-11)

	Ref. No.	Parts No.	Description	Re- marks
		С	APACITOR	
-	Ce1,2 Ce3,4 Ce5,6 Ce7,8 Ce9,10 Ce11,12 Ce13,14 Ce15,16 Ce17~ Ce20	CE04W1H470	Ceramic 220pF $\pm 10\%$ Electrolytic $1\mu$ F $50WV$ Electrolytic $10\mu$ F $25WV$ Ceramic $5p$ F $\pm 0.5p$ F Ceramic $47p$ F $\pm 10\%$ Electrolytic $220\mu$ F $6.3WV$ Electrolytic $47\mu$ F $50WV$ Ceramic $100p$ F $\pm 10\%$ Ceramic $270p$ F $\pm 10\%$	
	Ce21,22 Ce23,24 Ce25 Ce26 Ce27	CE04W1C100(NP) CQ93M1H224M CE04W1H221 CE04W1H010 CE04W1A101(NP)	Electrolytic 10μF 16WV Mylar 0.22μF ±20% Electrolytic 220μF 50WV Electrolytic 1μF 50WV Electrolytic 100μF 10WV	

## PARTS LIST

Ref. No.	Parts No.	Description	Re- marks
Ce28	CE04W1E101M-	Electrolytic 100µF 25WV	
0020	BR		
Ce29,30	CQ93M1H333M	Mylar 0.033μF ±20%	
Ce33 <b>∼</b>	CE04W0J470	Electrolytic 47µF 6.3WV	
36			
		RESISTOR	
Re1,2	PD14BY2E334J	Carbon 330kΩ ±5% 1/4W	
Re3,4	PD14BY2E562J	Carbon 5.6kΩ ±5% 1/4W	
Re5,6	PD14BY2E563J	Carbon 56k $\Omega$ ±5% 1/4W Carbon 2.7k $\Omega$ ±5% 1/4W	
Re7,8	PD14BY2E272J		
Re9,10	PD14BY2E153J	Carbon $15k\Omega$ $\pm 5\%$ $1/4W$ Cabron $5.6k\Omega$ $\pm 5\%$ $1/4W$	
Re11,12	PD14BY2E562J PD14BY2E563J	Carbon $56k\Omega$ $\pm 5\%$ $1/4W$	
Re13,14 Re15~	PD14BY2E560J	Carbon $56\Omega$ $\pm 5\%$ $1/4W$	
18	FD14B12E3003	Carbon Sour = 5,0 1, 111	
Re19,20	RC05GF2H222K	Carbon 2.2kΩ ±10% 1/2W	
Re21,22	RC05GF2H472K	Carbon $4.7k\Omega$ $\pm 10\%$ $1/2W$	
Re23,24	PD14BY2E272J	Carbon 2.7kΩ ±10% 1/4W	
Re25,26		Carbon 820Ω ±10% 1/4W	
Re27,28		Carbon 1kΩ ±5% 1/4W	
Re29~	PD14BY2E153J	Carbon 15k $\Omega$ ±5% 1/4W	
32 Re33 <b>∼</b> 36	PD14BY2E182J	Carbon 1.8kΩ ±5% 1/4W	
Re37 <b>∼</b> .	PD14BY2E331J-	Carbon 330Ω ±5% 1/4W	
40 Re41~ 44	B RN14AB3DR 47K-B	Metal film 0.47Ω ±10% 2W	
Re45,46	RN14AB3D4R 47K-B	Metal film 4.7Ω ±10% 2W	
Re47	PD14BY2E560J-B	Carbon $56\Omega$ $\pm 5\%$ $1/4W$	
Re48	RC05GF2H222K	Carbon 2.2kΩ ±10% 1/2W	
Re49	PD14CY2E682J	Carbon $6.8k\Omega$ $\pm 5\%$ $1/4W$	
Re50	PD14BY2E682J	Carbon $6.8k\Omega$ $\pm 5\%$ $1/4W$	
Re51 `	PD14BY2E102J	Carbon $1k\Omega$ ±5% $1/4W$	
Re52	PD14CY2E333J	Carbon $33k\Omega$ $\pm 5\%$ $1/4W$	
Re53	PD14BY2E333J	Carbon 33k $\Omega$ ±5% 1/4W	
Re54	PD14CY2E682J	Carbon $6.8k\Omega$ $\pm 5\%$ $1/4W$	1
Re55	RN14AB3A221J	Metal film 220Ω ±5% 1W	1
Re56 <b>∼</b> 59	PD14BY2E102J	Carbon $1k\Omega$ $\pm 5\%$ $1/4W$	-
	SEN	IICONDUCTOR	
Qe1~4		Transistor 2SA620WN4 or 5	
Qe5,6		Transistor 2SC1451 (G) or (B)	
Qe7,8		Transistor 2SC1416GR	
Qe9,10		Transistor 2SC945	
Qe11,12		Transistor 2SC945 (Q) or (P)	
Qe13,14	;	Transistor 2SA733	
Qe15,16	5	Transistor 2SC1212A (B) or (C	)
Qe17,18	l .	Transistor 2SA743A (B) or (C)	
Qe19,20	1	Transistor 2SC 1444	
Qe21,22	2	Transistor 2SA764	
Qe23 Qe24		Transistor 2SC1416 Transistor 2SC1213A (C)	
٠			
De1~4		Diode 1S2076	
De5		Zener diode YZ-140	
De6~9		Diode 1S2076	
THe1,2		Thermistor 5TP-41L	

Ref. No.	Parts No.	Description	Re- marks
	POTEN	TIOMETER/RELAY	
VRe1,2	R12-1021-05	PC trimmer potentiometer	
RLe1	S51-4029-05	Relav	
	MISC	ELLANEOUS	,
_	E02-0210-05	Transistor socket x 4	
- ", <del>"</del>	F01-0187-03 F20-0067-05	Heat sink Mica plate x 4	
	J25-1080-03	PC board	<u> </u>

#### **■ PREAMP (X08-1270-02)**

Ref. No.	Parts No.	Description Remark	- 1
	C	APACITOR	
Cd1,2	CS15E1A3R3M	Tantalum 3.3µF 10WV	
Cd3,4	CE04W0J330	Electrolytic 33µF 6.3WV	
Cd5,6	CQ93M1H224M	Mylar 0.22µF ±20%	
Cd7,8	CE04W1C470	Electrolytic 47µF 16WV	
Cd9,10	CQ93M1H272J	Mylar 0.0027µF±5%	
Cd11,12	CQ93M1H822J	Mylar 0.0082µF±5%	
Cd15,16	CC45SL1H470K	Ceramic 47pF ±10%	
Cd17	CQ93M1H222K	Mylar 0.0022µF±10%	
		RESISTOR	
Rd1,2	PD14BY2E222J	Carbon 2.2kΩ ±5% 1/4W	
Rd3~6	PD14BY2E104J	Carbon $100$ k $\Omega$ $\pm 5\%$ $1/4$ W	
Rd7,8	PD14BY2E561J	Carbon $560\Omega$ $\pm 5\%$ $1/4W$	
Rd9,10	PD14BY2E824J	Carbon 820kΩ ±5% 1/4W	
Rd11,12	PD14BY2E563J	Carbon $56k\Omega$ $\pm 5\%$ $1/4W$	
Rd13,14	PD14BY2E221JB	Carbon 220 $\Omega$ ±5% 1/4W	
Rd15,16	PD14BY2E303J	Carbon 30k12 ±5% 1/4W	
Rd17,18	PD14BY2E474J	Carbon 470kΩ ±5% 1/4W	
Rd21,22	PD14BY2E183J	Carbon 18kΩ ±5% 1/4W	
	SEM	ICONDUCTOR	
ICd1		RC4558TA	
	PO	TENTIOMETER	
VRd1	R12-2016-05	PC trimmer potentiometer 5kΩ (B)	
	MIS	CELLAENOUS	
-	J25-1042-03	PC board	

#### ■ TONE AMP (X11-1200-01)

Ref. No.	Parts No.	Description		Re- marks
·	C	APACITOR		
Ci1,2	CE04W1E010	Electrolytic 1µF	25WV	
Ci3,4	CE04W1E100	Electrolytic 10µF	25WV	
Ci5,6	CE04W1E4R7	Electrolytic 4.7µF	10WV	
Ci7,8	CQ93M1H183K	Mylar 0.018µF	±10%	
Ci9,10	CQ93M1H154K	Mylar 0.15µF	±10%	1 1
Ci11,12	CQ93M1H392K	Mylar 0.0039 <b>µ</b> F	±10%	1 1
Ci13,14	CQ93M1H273K	Mylar 0.027µF	±10%	
Ci15,16	CE04W1A101	Electrolytic 100 $\mu$ F	10WV	

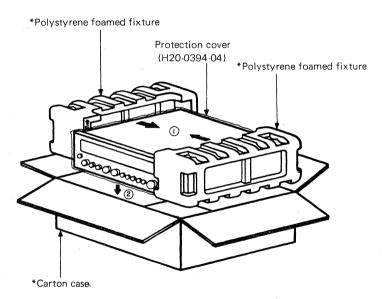
## PARTS LIST/PACKING

Ref. No	э.	Parts No.		Descri	otion		Re- marks
Ri5,6		PD14BY2E562J	Carbon	5.6kΩ	±5%	1/4W	
Ri7,8		PD14BY2E824J	Carbon	$820k\Omega$	±5%	1/4W	1 1
Ri9,10	)	PD14BY2E301J	Carbon	$300\Omega$	±5%	1/4W	1 1
Ri11,1	2	PD14BY2E103J	Carbon	$10k\Omega$	±5%	1/4W	1 1
Ri13,1	4	PD14BY2E332J	Carbon	$3.3$ k $\Omega$	±5%	1/4W	
Ri15,1	6	PD14BY2E682J	Carbon	$6.8$ k $\Omega$	±5%	1/4W	
Ri17,1	8	PD14BY2E152J	Carbon	$1.5$ k $\Omega$	±5%	1/4W	
Ri19,2	20	PD14BY2E222J	Carbon	$2.2k\Omega$	±5%	1/4W	
Ri21,2	22	PD14BY2E621J	Carbon	$620\Omega$	±5%	1/4W	
		SEM	ICONDU	CTOR			
ICi1			RC4558	3T (A) or	(B)		
		POT	ENTIOM	ETER			
VRi1,2	2	R06-4013-05	Potenti	ometer 1	00kΩ (I	в)	
		MIS	CELLAN	EOUS		٠	
_		J25-1071-03	PC boar	rd			

#### **■ PUSH SWITCH (X13-1840-10)**

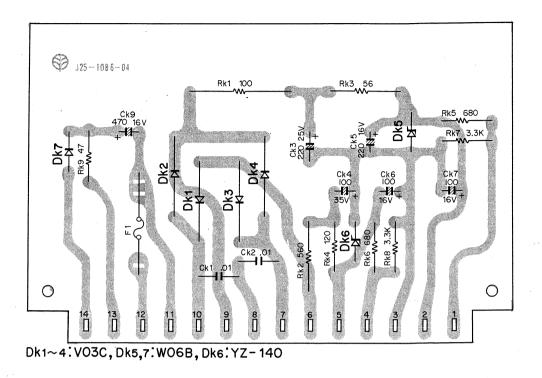
Ref. No.	Parts No.		Description	Re- marks
	C	APACITOR		
Ch1,2	CK45D1H561M	Ceramic	560pF ±20%	
Ch3,4	CQ93M1H393K	Mylar	0.039µF ±10%	
Ch5,6	CK45D1H681M	Ceramic	680Ω ±20%	
Ch7,8	CQ93M1H273K	Mylar	0.027µF ±10%	
		RESISTOR		
Rh1,2	PD14BY2E153J	Carbon	15kΩ ±5% 1/4W	
Rh3,4	PD14BY2E222J	Carbon	$2.2 k\Omega \pm 5\%  1/4W$	
Rh5~10	PD14BY2E123J	Carbon	12kΩ ±5% 1/4W	
	MIS	CELLANEC	ous	
_	J25-1087-04	PC board		

#### ■ PACKING

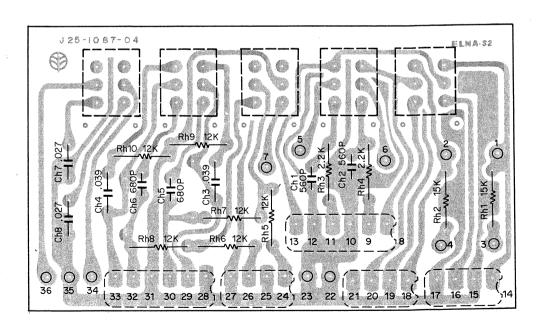


\*Refer to MODIFICATION Parts List.

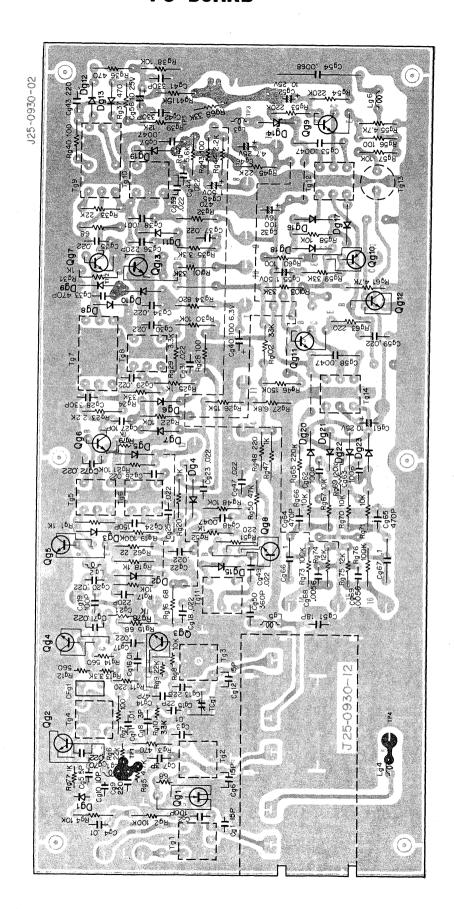
#### ▲ POWER SUPPLY (X00-1460-10)



#### ▲ PUSH SWITCH (X13-1840-10)

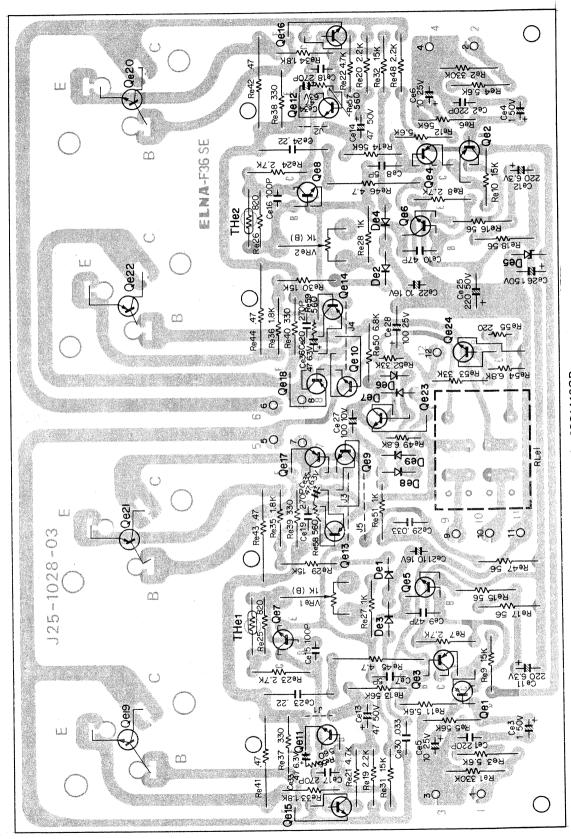


#### ▲ TUNER (X05-1120-11)



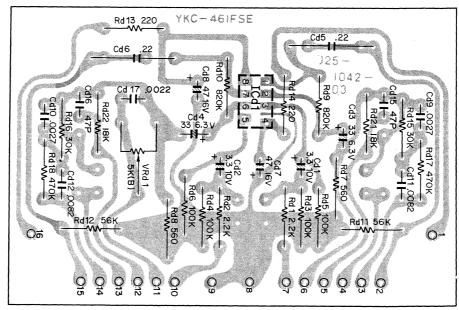
Qg1: 2SK19, Qg2,  $5\sim7:2SC381(O)$ , Qg3:2SC1342(A) or (B), Qg4:2SC381(O) or (R), Qg8:2SC460(B) Qg9, 12, 13: 2SC945(Q) or (R), Qg10:2SA733(Q) or (R), Qg11:2SC945(P) or (Q)

#### ▲ MAIN AMP (X07-1280-11)



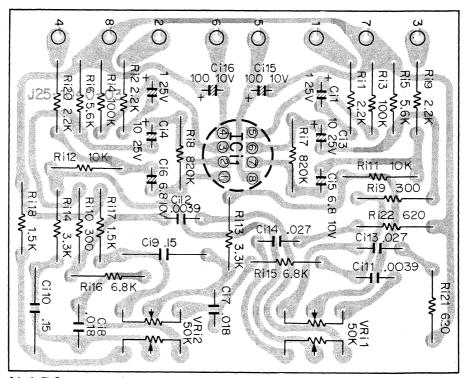
Qe9, 10 : 2SC945, Qe11, 12 : 2SC945 (Q) or (P), Qe13, 14 : 2SA733, Qe15, 16 : 2SC1212A (B) or (C), Qe17, 18 : 2SA743A (B) or (C), Qe19, 20 : 2SC1444, Qe21 , 22 : 2SA764, Qe23 : 2SC1416, Qe24 : 2SC1213A (C)  $\mbox{Qe1} \sim 4:2\mbox{SA620WN}$  (4) or (5),  $\mbox{Qe5}, 6:2\mbox{SC1451}$  (G) or (B)  $\mbox{Qe7}, 8:2\mbox{SC1416GR},$ 

# ▲ PRE AMP (X08-1270-02)



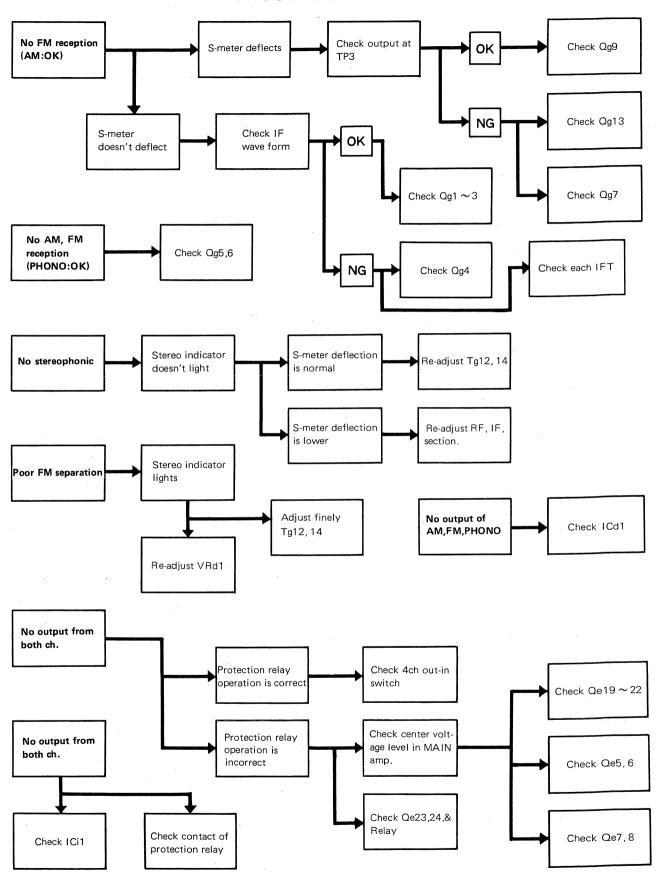
ICd1: RC 4558TA

# ▲ TONE AMP (X11-1200-01)



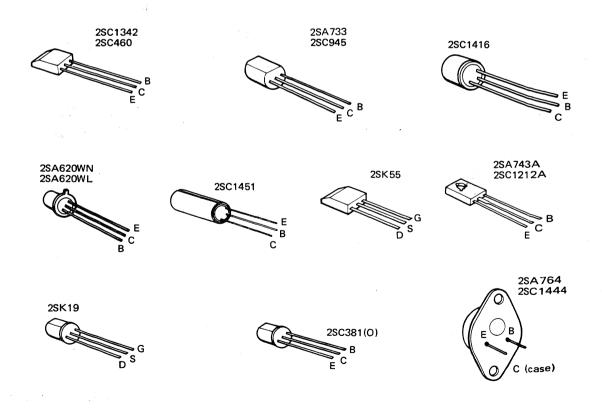
ICi1:RC4558T(A)or(B)

## **TROUBLESHOOTING**



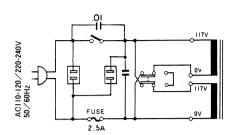
# SEMICONDUCTOR SUBSTITUTIONS AND LEADS

SEMICONDUCTOR	SEMICONDUCTOR SUBSTITUTIONS
TUNER (X05-1120-11, -41, -62) 2SK19 (Y) or (GR) 2SC381 (O) 2SC1342 (A) or (B) 2SC460 (B) 2SC945 (Q) or (R) 2SA733 (Q) or (R)	2SK55 (D) or (E) 2SC535 (B) or (C), 2SC1047 (C) 2SC785 (R) 2SC941 (O) 2SC1213A, 2SC458 (R) or (C) 2SA620WL (4) or (5)
MAIN AMP (X07-1280-11) 2SA620WN (4) or (5) 2SC1451 (G) or (B) 2SC1416 (GR) 2SC945 2SA733 2SC1212A (B) or (C) 2SA743A (B) or (C) 2SC1444 2SA764	2SA493, 2SA620WL 2SC983 (O), (Y) 2SC1000 (RR), 2SC1345 (D) 2SC984 (C), 2SC1213A (C) 2SA620WL 2SC497 (Y), 2SC627, 2SD220 2SA497, 2SA484
PRE AMP (X08-1270-02) RC4558TA	
TONE CONTROL AMP (X11-1200-01) RC4558TA or B	

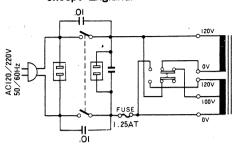


## **MODIFICATION OF SCHEMATIC DIAGRAM**

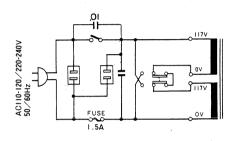
For 110-120/220-240V sets(1)



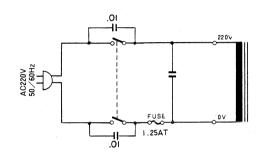
For the sets sold in Europe except England.



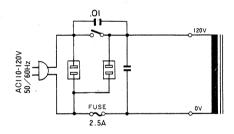
For 110-120/220-240V sets(2)



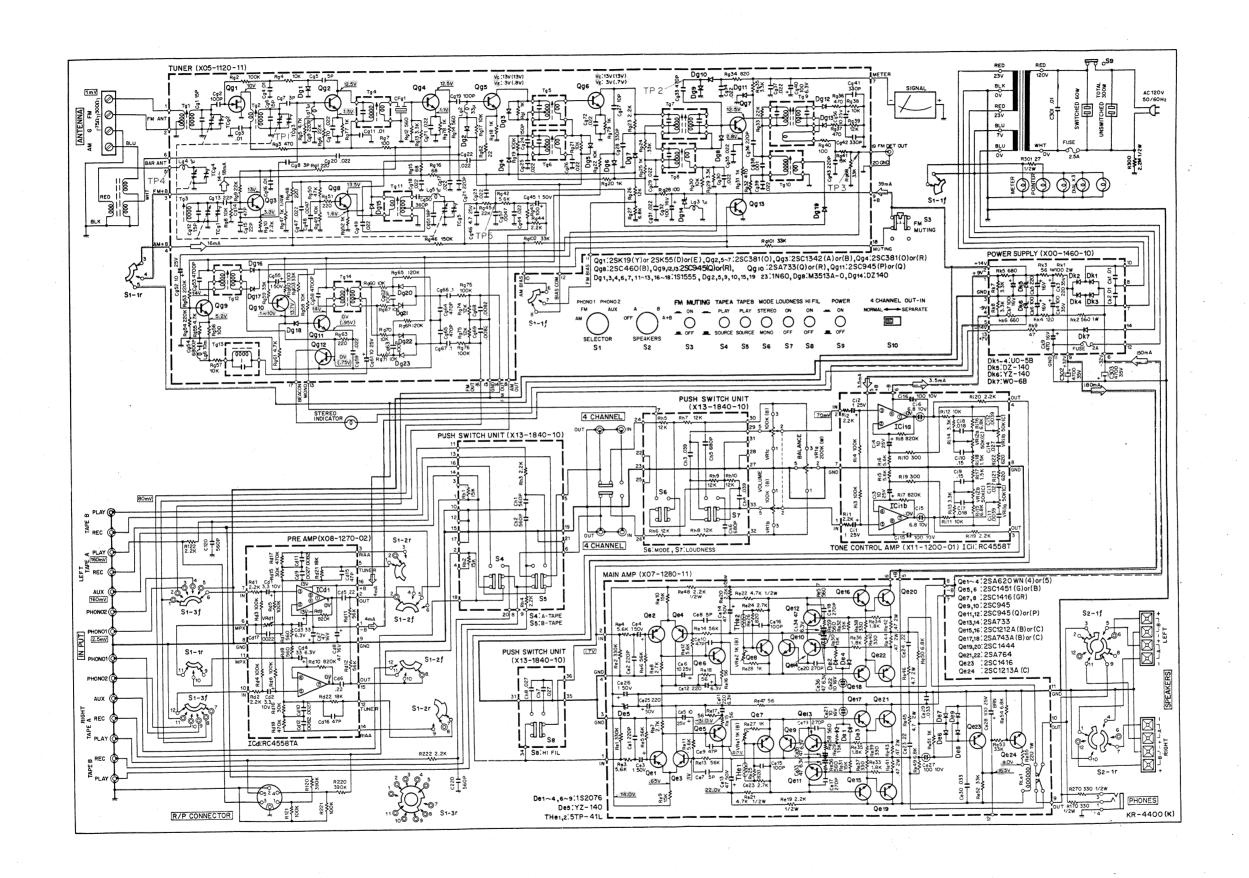
For the sets sold in Scandinavia



For the sets sold in Canada.



#### SCHEMATIC DIAGRAM



## **SPECIFICATIONS**

2.1 μV 2.1 μV 2.0 μV 60 dB, 50 μV 65 dB 2.0 μV 45 dB, 10 μV 60 dB, 50 μV 65 dB 2.0 μV 45 dB, 10 μV 60 dB, 50 μV 65 dB 2.0 μV 45 dB, 10 μV 60 dB, 20 μV 65 dB 2.0 μV 45 dB, 10 μV 60 dB, 20 μV 65 dB 2.0 μV 45 dB 1 μV input 2.0 dB 3.5 dB at 1,000 hz 2 pd dB 3.5 dB at 1,000 hz 2 pd dB 3.5 dB at 1 mV input 4.5 dB at 1 mV input 4.5 dB at 1 mV input 5.0 dB 3. dB 3		88 MHz to 108 MHz 87.5 MHz to 108 MHz (FTZ approved)	Input Sensitivity and Impedance Phono 1	2.5 mV, 50 Kohms	
5 μ/ 4 y 45 kg 1 μ/ 4 y 6 kg 1 kg 1 kg 1 kg 1 kg 1 kg 1 kg 1 kg	ity (IHF)	9	Phono 2	2.5 mV, 50 Kohms 150 mV, 45 Kohms	
20 H ≥ √15,000 H ≥ √25,00 H ≥ 0.00 M ≥ √25,00 H ≥ 0.00 M ≥ √25,00 H ≥ 0.00 M ≥ 0.00		$45  dB$ , $10  \mu V$ 60 dB, 50 $\mu V$ 65 dB	ACA Dave T	150 mV 45 Kohms	
Oracle Matter (HE)         Phono 1, 2           Oracle Matter (HE)         Oracle Matter (HE)           65 dB at 1 mV input         AUX           65 dB at 1 mV input         Tape Play A, B           85 dB         Output Voltage and Impedance           50 dB         Tape Play A, B           80 dB         Tape Play A, B           80 dB         Tape Play A, B           90 dB         Tape Play A, B           90 dB         Tape Play A, B           90 dB         Tape Play A, B           90 dB         Tape Play A, B           90 dB         Tape Play A, CH OUT           90 dB         Tape Play A, B           90 dB         ACH OUT           90 dB         Tape Play A, B (Pin)           10 dB         Tape Play A, Tape Play A, B           10 dB         AUX, Tape Play A, B           10 dB         AUX, Tape Play A, B           10 dB         AUX, Tape Play A, B           10 dB         AUX, Tape Play A, B           10 dB         AUX, Tape Play A, B           10 dB         AUX, Tape Play A, B           10 dB         AUX, Tape Play A, B           10 dB         AUX, Tape Play A, B           10 dB         AUX, Tape Play A, B		$z \sim 15,000 \text{ Hz} - 2.0 \text{ dB}$	Maximum Input Voltage (rms)		
65 dB at 1 mV input         Signal to noise Ratio (IHF A CURVE)           60 dB         4 moise Flate (IHF A CURVE)           65 dB         4 moise Flate           85 dB         9 mon 1, 2           80 dB         7 monector 1           80 dB         10 in connector 1           90 dB         10 in connector 1           10 dB         10 in connector 1           10 dB         10 in connector 1           10 dB         10 in connector 1           10 dB         10 in connector 1           10 dB         10 in connector 1           10 dB         10 in connector 1           10 monector 1         10 monector 1           10 monector 2         4UH           10 monector 2         4UH           10 monector 3         10 monector 1           10 monector 3         10 monector 1           10 monector 3         10 monector 3           10 monector 3         10 monector 3           10 monector 3         10 monector 3		Stereo (at 400 Hz 100% modulation)	Phono 1, 2	120 mV T.H.D. 0.5% at 1,000 Hz	
60 dB 55 dB 80 dB		3 at 1 mV input	Signal to noise Ratio (IHF A CURN	VE)	
8.5 dB 8.6 dB 8.7 d dB 8.6 dB 8.7 d		<b>m</b>	Phono 1, 2	70 dB	
86 dB 80 dB			AUX	90 dB	
80 dB         Output Voltage and Impedance Tape Rec. A, B (Pin)           50 dB         10 m connector)           50 dB         4-CH OUT           20 dB         4-CH OUT           20 dB         4-CH OUT           20 dB         4-CH OUT           20 dB         4-CH OUT           4-CH OUT         4-CH OUT           50 dB         7- Point OUT           50 dB         7- Point OUT           50 dB         7- Point OUT           50 dB         7- Point OUT           50 dB         1- Point OUT           50 dB         1- Point OUT           50 dB         1- Point OUT           50 dB         1- Point OUT           50 dB         1- Point OUT           50 dB         1- Point Selector           50 dB         1- Point Selector           50 watts into 8 ohms         1- Point Selector           50 watts into 8 ohms         1- Point Selector </th <th></th> <th></th> <th>Tape Play A, B</th> <th>90 dB</th> <th></th>			Tape Play A, B	90 dB	
50 dB  2.0 dB  2.0 dB  3.5 dB at 1,000 Hz 50 dB  300 ohms Balanced & 75 ohms Unbalanced 300 ohms Balanced & 75 ohms Unbalanced 300 ohms Balanced & 75 ohms Unbalanced 300 ohms Balanced & 75 ohms Unbalanced 300 ohms Balanced & 75 ohms Unbalanced 300 ohms Balanced & 75 ohms Unbalanced 300 ohms Balanced & 75 ohms Unbalanced 300 dB 30 dB 30 dB 30 dB 30 dB 30 ohms Balanced & 75 ohms Unbalanced 30 ohms Balanced & 75 ohms Unbalanced 30 dB 30 dB 30 ohms Balanced & 75 ohms Unbalanced 30 ohms Balanced & 75 ohms Unbalanced 30 ohms Balanced & 75 ohms Unbalanced 30 ohms Balanced & 75 ohms Unbalanced 30 ohms Balanced & 75 ohms Unbalanced 4CH OUT 4D out Controls 4D out Contro			Output Voltage and Impedance		
2.0 dB 35 dB at 1,000 Hz 50 dB 300 ohms Balanced & 75 ohms Unbalanced 300 ohms Balanced & 75 ohms Unbalanced 300 ohms Balanced & 75 ohms Unbalanced 300 ohms Balanced & 75 ohms Unbalanced 300 ohms Balanced & 75 ohms Unbalanced 300 ohms Balanced & 75 ohms Unbalanced 300 ohms Balanced & 75 ohms Unbalanced 300 ohms Balanced & 75 ohms Unbalanced 300 ohms Balanced & 75 ohms Unbalanced 300 dB 300 dB 300 dB 300 dB 300 ohms Balanced & 75 ohms Unbalanced 300 ohms Balanced & 75 ohms Unbalanced 300 ohms at 1,000 Hz 300 watts into 8 ohms at 1,000 Hz 300 watts into 8 ohms 300 wa		8	Tape Rec. A, B (Pin)	150 mV, 100 ohms	
35 dB at 1,000 Hz         Frequency Response           50 dB         Phono 1, 2           20 dW, Tape Play         Phono 1, 2           20 μV         Tone Controls           20 dB         Treble           50 dB         Noise Filter           8ullt-in ferrite bar antenna, External antenna         CENERAL           8ullt-in ferrite bar antenna, External antenna         GENERAL           55 dB         Switches           55 W x 2 into 8 ohms at 1,000 Hz         Switches           25 W x 2 into 8 ohms at 1,000 Hz         Tape Monitor           33 W x 2 into 4 ohms         Others           130 watts into 8 ohms         O5% at rated power into 8 ohms           0.08% at 1/2 rated power into 8 ohms         O5% at rated power into 8 ohms           0.08% at 1/2 rated power into 8 ohms         Dimension           0.08% at 1/2 rated power into 8 ohms         Dimension           0.08% at 1/2 rated power into 8 ohms         Dimension           0.08% at 1/2 rated power into 8 ohms         Dimension		<b>8</b>	(Din connector)	30 mV, 80 Kohms	
Frequency Response 300 ohms Balanced & 75 ohms Unbalanced 300 ohms Balanced & 75 ohms Unbalanced 300 ohms Balanced & 75 ohms Unbalanced 4UX, Tape Play Tone Controls 8 ass 45 dB at 1 mV input 50 dB 28 dB 35 dB 8 signerate antenna, External antenna terminals 8 shitches 9 wat 1 mot 4 ohms at 1,000 Hz 130 watts into 8 ohms 1,000 Hz 1,000		B at 1,000 Hz	4-CH OUT	150 mV	
300 ohms Balanced & 75 ohms Unbalanced  AUX, Tape Play Tone Controls  Bass 45 dB at 1 mV input 50 dB 28 dB 35 dB Built-in ferrite bar antenna, External antenna terminals  25 W × 2 into 8 ohms at 20 Hz ~ 20,000 Hz 37 W × 2 into 8 ohms at 1,000 Hz 90 watts into 4 ohms 130 watts into 4 ohms 10.08% at 1/2 rated power into 8 ohms 0.08% at 8 ohms 0.09% at 8 ohms 0.09% at 8 ohms 0.09% at 8 ohms 0.09% at 8 ohms 0.09% at 8 ohms 0.09% at 8 ohms 0.09% at 1/2 rated power into 8 ohms 0.09% at 8 ohms 0.09% at 1/2 rated power into 8 ohms 0.09% at 8 ohms 0.09% at 8 ohms 0.09% at 1/2 rated power into 8 ohms 0.09	ession	8	Frequency Response		
AUX, Tape Play  Tone Controls  20 μV 45 dB at 1 mV input 50 dB 28 dB 28 dB 36 dB 30 dB 28 dB 30 dB 29 dB 29 dB 30		ohms Balanced & 75 ohms Unbalanced	Phono 1, 2	RIAA Standard curve ±1.5 dB	
Tone Controls  8 ass 45 dB at 1 mV input 50 dB 28 dB 35 dB 35 dB 8 uilt-in ferrite bar antenna, External antenna terminals  25 W x 2 into 8 ohms at 20 Hz ~ 20,000 Hz 33 W x 2 into 8 ohms 130 watts into 4 ohms 60.5% at rated power into 8 ohms 60.6% at rated power into 8 ohms 60.6% at rated power into 8 ohms 60.6% at rated power into 8 ohms 60.6% at rated power into 8 ohms 60.6% at 1/2 rated power into 8 ohms 60.6% at 1/2 rated power into 8 ohms 60.6% at 1/2 rated power into 8 ohms 60.6% at at get get get get get get get get get ge			AUX, Tape Play	10 Hz $\sim$ 40,000 Hz ±1.5 dB	
20 μV Treble 50 dB 28 dB 30 at 1 mV input Treble CodB 28 dB 30 dB 30 dB 28 dB 30 dB 30 dB 28 dB 30 dB 30 dB 30 dB 30 dB 30 dB 30 dB 30 dB 45 dB Treble Loudness Control (-30 dB) Reliter Loudness Control (-30 dB) Reliter Switches	I TUNER SECTION		Tone Controls		
45 dB at 1 mV input  50 dB  28 dB  35 dB  8uilt-in ferrite bar antenna, External antenna terminals  25 W x 2 into 8 ohms at 20 Hz ~ 20,000 Hz  33 W x 2 into 4 ohms at 1,000 Hz  90 watts into 4 ohms 0.5% at rated power into 8 ohms 0.6% at 1/2 rated power into 8 ohms 0.6% at 1/2 rated power into 8 ohms 0.6% at 1/2 rated power into 8 ohms 0.6% at 1/2 rated power into 8 ohms 0.6% at rated power into 8 ohms 0.6% at 1/2 rated power into 8 ohms 0.6% at 1/2 rated power into 8 ohms 0.6% at 1/2 rated power into 8 ohms 0.6% at 1/2 rated power into 8 ohms 0.6% at 1/2 rated power into 8 ohms 0.6% at 1/2 rated power into 8 ohms 0.6% at 1/2 rated power into 8 ohms 0.6% at 1/2 rated power into 8 ohms 0.6% at 1/2 rated power into 10 8 ohms 0.6% at 1/2 rated power into 8 ohms 0.6% at 1/2 rated power into 8 ohms 0.6% at 1/2 rated power into 8 ohms 0.6% at 1/2 rated power into 8 ohms 0.7% at 1/2 rated power into 8 ohms 0.8% at 1/2 rated power into 8 ohms 0.9% at 1/2 rated	_	>	Bass	±10 dB at 100 Hz	
50 dB 28 dB 35 dB 8uilt-in ferrite bar antenna, External antenna terminals  25 W x 2 into 8 ohms at 1,000 Hz 33 W x 2 into 4 ohms at 1,000 Hz 90 watts into 4 ohms 0.5% at rated power into 8 ohms 0.08% at 1/2 rated power into 8 ohms 0.08% at 1/2 rated power into 8 ohms 0.08% at 1/2 rated power into 8 ohms 0.08% at 1/2 rated power into 8 ohms 0.08% at 1/2 rated power into 8 ohms 0.08% at 1/2 rated power into 8 ohms 0.08% at 1/2 rated power into 8 ohms 0.08% at 1/2 rated power into 8 ohms 0.08% at 1/2 rated power into 8 ohms 0.08% at 1/2 rated power into 8 ohms 0.08% at 1/2 rated power into 8 ohms 0.08% at 1/2 rated power into 8 ohms 0.08% at 1/2 rated power into 8 ohms 0.08% at 1/2 rated power into 8 ohms 0.08% at 1/2 rated power into 8 ohms 0.08% at 1/2 rated power into 10 8 ohms 0.09% at 1/2 rated power into 8 ohm		B at 1 mV input	Treble	±10 dB at 10,000 Hz	
28 dB 35 dB Built-in ferrite bar antenna, External antenna terminals  Ereminals  Switches Switches Switches Switches Switches Switches Switches Switches Switches Switches Switches Switches Switches Switches Switches Switches Switches Switches Switches Swatches Switches Switches Switches Swatches Speaker Selector Input Selector Swatches Swatche		m	Loudness Control (-30 dB)	+8 dB at 100 Hz	
Suitr-in ferrite bar antenna, External antenna terminals  Built-in ferrite bar antenna, External antenna terminals  External antenna, External antenna at terminals  Switches  Switches  Switches  Switches  Switches  Swatches  Speaker Selector  Input Selector  Input Selector  Mode  27 W x 2 into 8 ohms at 1,000 Hz  33 W x 2 into 4 ohms at 1,000 Hz  90 watts into 8 ohms  0.5% at rated power into 8 ohms  0.08% at 1/2 rated power into 8 ohms  0.08% at 1/2 rated power into 8 ohms  10 Hz ~ 30,000 Hz  55 dB  30 at 8 ohms  Ac Outlet  Dimension  Weight		<b>a</b>		+5 dB at 10,000 Hz	
Built-in ferrite bar antenna, External antenna terminals  terminals  Switches  Switches  Switches  Switches  Switches  Switches  Switches  Switches  Swatches  Speaker Selector  Input Selector  Mode  27 W x 2 into 8 ohms at 1,000 Hz  33 W x 2 into 4 ohms at 1,000 Hz  130 watts into 8 ohms  0.5% at rated power into 8 ohms  0.08% at 1/2 rated power into 8 ohms  0.08% at 1/2 rated power into 8 ohms  10 Hz  0.5% at rated power into 8 ohms  0.08% at 1/2 rated power into 8 ohms  10 Hz  0.5% at rated power into 8 ohms  10 Hz  0.5% at rated power into 8 ohms  10 Hz  0.5% at rated power into 8 ohms  10 Hz  0.5% at rated power into 8 ohms  10 Hz  0.5% at rated power into 10 8 ohms  10 Hz  0.5% at rated power into 8 ohms  10 Hz  0.5% at rated power into 8 ohms  10 Hz  0.5% at rated power into 8 ohms  10 Hz			Noise Filter	-10 dB at 10,000 Hz	
Switches  Switches  Switches  Switches  Switches  Switches  Speaker Selector  Input Selector		n ferrite bar			
Switches Switches Speaker Selector Input Selector Input Selector Speaker Selector Speaker Selector Input Selector Node 27 W $\times$ 2 into 8 ohms at 1,000 Hz Others 90 watts into 4 ohms at 1,000 Hz Others 130 watts into 4 ohms Others 0.5% at rated power into 8 ohms 0.6% at 1/2 rated power into 8 ohms 0.08% at 1/2 rated power into 8 ohms 0.08% at 1/2 rated power into 8 ohms 0.08% at 1/2 rated power into 8 ohms 0.08% at 1/2 rated power into 8 ohms 0.08% at 1/2 rated power into 8 ohms 0.08% at 1/2 rated power into 8 ohms 0.08% at 1/2 rated power into 8 ohms 0.08% at 1/2 rated power into 8 ohms 0.08% at 1/2 rated power into 8 ohms 0.08% at 1/2 rated power into 10 ohms 0.08% at 1/2 rated power into 8 ohms 0.08% a			GENERAL		
Speaker Selector Input Selector Input Selector Input Selector Solutions at 20 Hz $\sim$ 20,000 Hz Mode 27 W $\times$ 2 into 8 ohms at 1,000 Hz Tape Monitor 33 W $\times$ 2 into 4 ohms at 1,000 Hz Others 90 watts into 8 ohms 130 watts into 4 ohms 0.5% at rated power into 8 ohms 0.6% at 1/2 rated power into 8 ohms 0.08% at 1/2 rated power into 8 ohms 0.08% at 1/2 rated power into 8 ohms 100 Hz $\sim$ 30,000 Hz Dimension 0.08% at 1/2 rated power into 8 ohms 0.08% at 1/2 rated power into 8 ohms 0.08% at 1/2 rated power into 8 ohms 0.08% at 1/2 rated power into 8 ohms 0.08% at 1/2 rated power into 8 ohms 0.08% at 1/2 rated power into 8 ohms 0.08% at 1/2 rated power into 8 ohms 0.08% at 1/2 rated power into 10 Hz $\sim$ 30,000 Hz Dimension 0.08% at 1/2 rated power into 8 ohms 0.08% at 1/2 rated power into 8 ohms 0.08% at 1/2 rated power into 8 ohms 0.08% at 1/2 rated power into 8 ohms 0.08% at 1/2 rated power into 8 ohms 0.08% at 1/2 rated power into 8 ohms 0.08% at 1/2 rated power into 8 ohms 0.08% at 1/2 rated power into 8 ohms 0.08% at 1/2 rated power into 8 ohms 0.08% at 1/2 rated power into 8 ohms 0.08% at 1/2 rated power into 8 ohms 0.08% at 1/2 rated power into 8 ohms 0.08% at 1/2 rated power into 8 ohms 0.08% at 1/2 rated power into 8 ohms 0.08% at 1/2 rated power into 9 ohms 0.08% at 1/2 rated power			Switches		
1 Input Selector  25 W $\times$ 2 into 8 ohms at 20 Hz $\sim$ 20,000 Hz  27 W $\times$ 2 into 8 ohms at 1,000 Hz  33 W $\times$ 2 into 4 ohms at 1,000 Hz  130 watts into 8 ohms  130 watts into 4 ohms  0.5% at rated power into 8 ohms  0.08% at 1/2 rated power into 8 ohms  0.08% at 1/2 rated power into 8 ohms  10 Hz $\sim$ 30,000 Hz  55 dB  30 at 8 ohms  Weight	IN AMPLIFIER SECTION		Speaker Selector	OFF, A, B, A + B	
25 W x 2 into 8 ohms at 20 Hz ~ 20,000 Hz  27 W x 2 into 8 ohms at 1,000 Hz  33 W x 2 into 4 ohms at 1,000 Hz  90 watts into 8 ohms  130 watts into 4 ohms  0.5% at rated power into 8 ohms  0.08% at 1/2 rated power into 8 ohms  10 0.08% at 1/2 rated power into 8 ohms  11)  12 0.08% at 1/2 rated power into 8 ohms  13 0.08% at 1/2 rated power into 8 ohms  14 0.08% at 1/2 rated power into 8 ohms  15 0.08% at 1/2 rated power into 8 ohms  16 0.08% at 1/2 rated power into 8 ohms  17 0.08% at 1/2 rated power into 8 ohms  18 0.08% at 1/2 rated power into 8 ohms  19 0.08% at 1/2 rated power into 8 ohms  10 0.08% at 1/2 rated power into 8 ohms  10 0.08% at 1/2 rated power into 8 ohms  10 0.08% at 1/2 rated power into 8 ohms  10 0.08% at 1/2 rated power into 8 ohms  10 0.08% at 1/2 rated power into 8 ohms  10 0.08% at 1/2 rated power into 8 ohms  10 0.08% at 1/2 rated power into 8 ohms  10 0.08% at 1/2 rated power into 8 ohms  10 0.08% at 1/2 rated power into 9 ohms  10 0.08% at 1/2 rated power into 9 ohms  10 0.08% at 1/2 rated power into 9 ohms  10 0.08% at 1/2 rated power into 9 ohms  10 0.08% at 1/2 rated power into 9 ohms  10 0.08% at 1/2 rated power into 9 ohms  11 0.08% at 1/2 rated power into 9 ohms  12 0.08% at 1/2 rated power into 9 ohms  13 0.08% at 1/2 rated power into 9 ohms  14 0.08% at 1/2 rated power into 9 ohms  15 0.08% at 1/2 rated power into 9 ohms  16 0.08% at 1/2 rated power into 9 ohms  17 0.08% at 1/2 rated power into 9 ohms  18 0.08% at 1/2 rated power into 9 ohms  19 0.08% at 1/2 rated power into 9 ohms  10 0.08% at 1/2 rated power into 9 ohms  10 0.08% at 1/2 rated power into 9 ohms  10 0.08% at 1/2 rated power into 9 ohms  10 0.08% at 1/2 rated power into 9 ohms  10 0.08% at 1/2 rated power into 9 ohms  10 0.08% at 1/2 rated power into 9 ohms  10 0.08% at 1/2 rated power into 9 ohms  11 0.08% at 1/2 rated power into 9 ohms  12 0.08% at 1/2 rated power into 9 ohms  13 0.08% at 1/2 rated power into 9 ohms  14 0.08% at 1/2 rated power into 9 ohms  15 0.08% at 1/2 rated power into 9 ohms  16 0.08%	RMS Power Output		Input Selector	AM-FM-PHONO 1-PHONO 2-AUX	
27 W x 2 into 8 ohms at 1,000 Hz  33 W x 2 into 4 ohms at 1,000 Hz  90 watts into 8 ohms  130 watts into 8 ohms  0.5% at rated power into 8 ohms  0.08% at 1/2 rated power into 8 ohms  1)	riven	$I \times 2$ into 8 ohms at 20 Hz $\sim$ 20,000 Hz	Mode	MONO-STEREO	
33 W x 2 into 4 ohms at 1,000 Hz 90 watts into 8 ohms 130 watts into 4 ohms 130 watts into 8 ohms 0.5% at rated power into 8 ohms 0.08% at 1/2 rated power into 8 ohms 1)		1 x 2 into 8 ohms at 1,000 Hz	Tape Monitor	A (ON-SOURCE); B (ON-SOURCE)	
90 watts into 8 ohms 130 watts into 4 ohms 130 watts into 4 ohms 0.5% at rated power into 8 ohms 0.08% at 1/2 rated power into 8 ohms 1) 10 0.08% at 1/2 rated power into 8 ohms 1) 10 Hz ~ 30,000 Hz 50 mW 55 dB 30 at 8 ohms 10 Az ~ 30,000 Hz 50 mW	N 88	/ x 2 into 4 ohms at 1,000 Hz	Others	NOISE FILTER, FM MUTING, LOUDNESS,	
130 watts into 4 ohms  on 0.5% at rated power into 8 ohms 0.08% at 1/2 rated power into 8 ohms 1) 0.08% at 1/2 rated power into 8 ohms 1) 0.08% at 1/2 rated power into 8 ohms 1) 0.08% at 1/2 rated power into 8 ohms 10 $H_z \sim 30,000 H_z$ So mW 55 dB 30 at 8 ohms		atts into 8 ohms		PHONES JACK	
0.5% at rated power into 8 ohms 0.08% at 1/2 rated power into 8 ohms at 1,000 Hz 0.5% at rated power into 8 ohms 0.08% at 1/2 rated power into 8 ohms 0.08% at 1/2 rated power into 8 ohms 10 Hz $\sim$ 30,000 Hz 55 dB 30 at 8 ohms 0.08% 30 at 8		watts into 4 ohms	AC Outlet	Switched 1, Unswitched 1	
0.08% at 1/2 rated power into 8 ohms at 1,000 Hz 0.5% at rated power into 8 ohms 0.08% at 1/2 rated power into 8 ohms 10.08% at 1/2 rated power into 8 ohms 10 Hz $\sim$ 30,000 Hz 55 dB 30 at 8 ohms		at rated power into 8 ohms	Power Consumption	210 watts at full power	
0.5% at rated power into 8 ohms 0.08% at 1/2 rated power into 8 ohms 0.08% at 1/2 rated power into 8 ohms 10 Hz $\sim$ 30,000 Hz 55 dB 30 at 8 ohms		% at 1/2 rated power into 8 ohms at 1,000 Hz		30 watts at no signal	
0.08% at 1/2 rated power into 8 ohms $10  \text{Hz} \sim 30,000  \text{Hz}$ Weight $10  \text{Hz} \sim 30,000  \text{Hz}$ $55  \text{dB}$ $30  \text{at 8 ohms}$		at rated power into 8 ohms	Dimension	W 18-15/16" (480 mm), H 5-3/8" (137 mm),	
10 Hz ~ 30,000 Hz 55 dB 30 at 8 ohms		% at 1/2 rated power into 8 ohms		D 13-9/16" (344 mm)	
55 dB 30 at 8 ohms		$z \sim 30,000 \text{ Hz}$	Weight	22.3 lbs (10 kg)	
30 at 8 ohms		8		19.8 lbs (9 kg) (Europe & Scandinavia)	
ot and h tasse		t 8 ohms			
Accept 4 onms to	92	Accept 4 ohms to 16 ohms			

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